1. Seminal emission depends on an intact:

    A. parasympathetic and somatic nervous system.
    [✓ B.] sympathetic nervous system.
    C. parasympathetic nervous system.
    D. sympathetic and parasympathetic nervous system.
    E. sympathetic and somatic nervous systems.

2. After starting antimicrobials in healthy individuals with uncomplicated acute pyelonephritis, the urine is typically sterile within:

    A. a few hours.
    B. twenty-four hours.
    C. forty-eight hours.
    D. three days.
    E. seven days.

3. A 55-year-old woman with breast cancer has a 3.5 cm right adrenal nodule. The nodule has an attenuation of 25 Hounsfield units on non-contrast CT scan, 80% washout on contrast enhanced CT scan, and signal loss of 40% on chemical shift MRI scan. The lesion is a:

    A. lipid rich adenoma.
    B. lipid poor adenoma.
    C. myelolipoma.
    D. breast cancer metastasis.
    E. primary adrenal cancer.

4. A 54-year-old man with hypertension and a creatinine of 1.7 mg/dl is started on an ACE inhibitor. After two weeks, the creatinine is unchanged, but hypertension persists and a diuretic is added. One week later, the creatinine is 2.5 mg/dl (eGFR of 27 ml/min/1.73 m^2). The next test is:

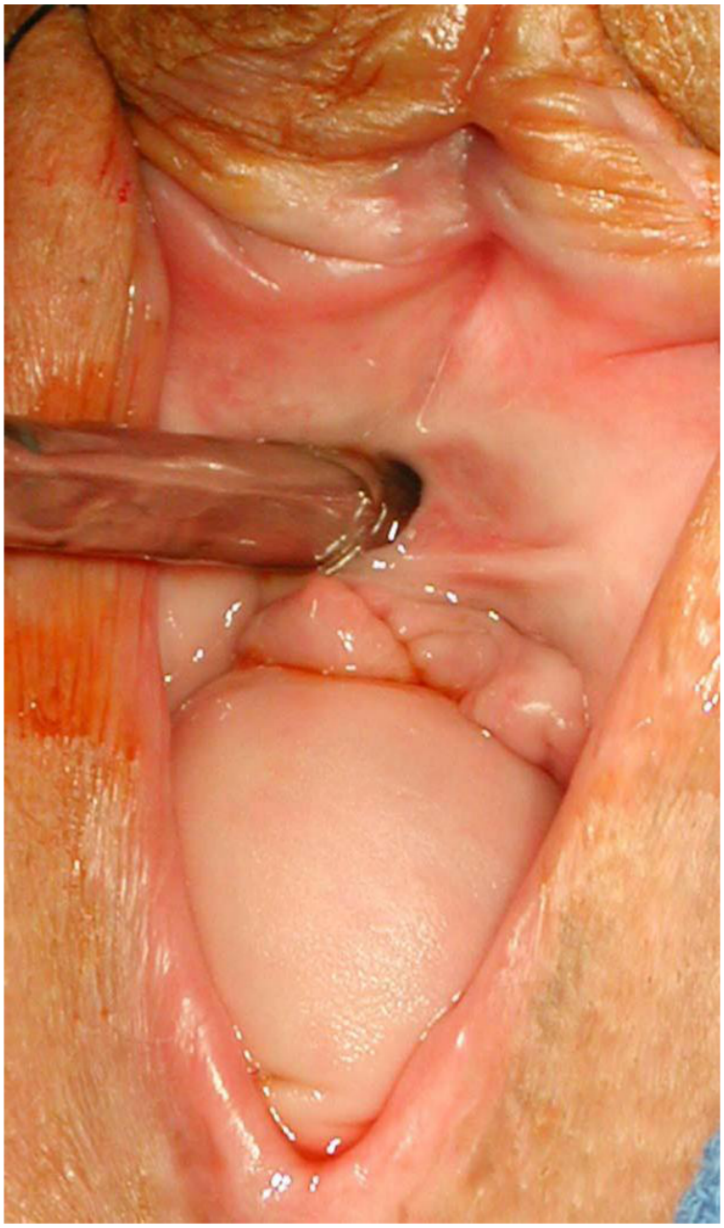
    A. split renal vein renin measurements.
    B. contrast-enhanced MR angiography.
    C. nonenhanced MR angiography.
    D. contrast-enhanced CT angiography.
    E. captopril renography.

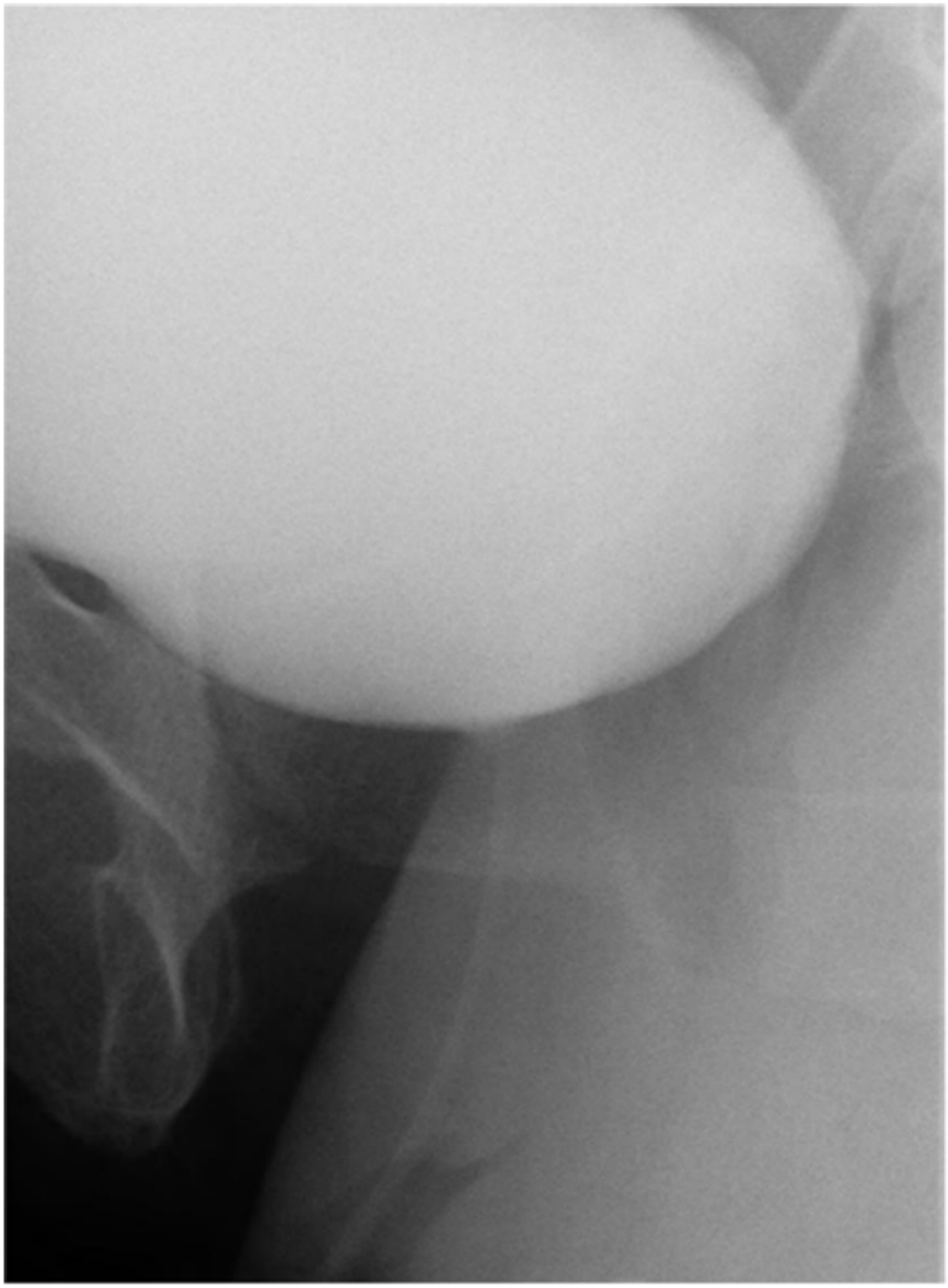
5. A 25-year-old man has left scrotal pain after sustaining an injury playing soccer. The left testis is tender and enlarged on exam. Scrotal ultrasound reveals a 5cm hematocele, normal intraparenchymal blood flow, and a focal area of increased left testis echogenicity. The tunica albuginea cannot be fully visualized. The next step is:

    A. observation.
    B. MRI scan of the scrotum.
    C. repeat scrotal ultrasound in 48 hours.
    D. obtain tumor markers.
    E. scrotal exploration.

6. A 55-year-old active woman desires surgical repair of a vaginal bulge. She has urinary frequency but no urinary or fecal incontinence. The physical examination with a cystoscope in the urethra is shown followed by a cystogram at maximal Valsalva taken during a videourodynamic study. The next step is:

   A. anterior (cystocele) repair with sling.
   B. transvaginal vault suspension and anterior (cystocele) repair.
   C. uterosacral vault suspension and rectocele repair.
   D. robotic sacrocolpopexy.
   E. robotic sacrocolpopexy and midurethral sling.





7. During the third trimester of pregnancy, the most common changes in renal function tests are:

   A. elevated BUN; decreased creatinine.
   B. elevated BUN; elevated creatinine.
   C. decreased BUN; decreased creatinine.
   D. decreased BUN; elevated creatinine.
   E. unchanged BUN and creatinine.

8. A 28-year-old man has 1+ proteinuria and moderate blood on two dipstick analyses. Two microscopic urinalyses each reveals 0-2 RBCs/hpf. According to the AUA Guidelines, the next step is:

   A. reassurance and no further evaluation.
   B. serum albumin level.
   C. urine cytology.
   D. 24-hour urine collection for protein.
   E. cystoscopy and upper tract imaging.

9. A 68-year-old man with ESRD has been on peritoneal dialysis for four years. He is anuric and asymptomatic. Ultrasound reveals several non-echogenic cysts involving the left kidney. The next step is:

   A. left nephrectomy.
   B. CT scan.
   C. renal arteriography.
   D. repeat ultrasound in six months.
   E. conversion to hemodialysis.

10. A 55-year-old man is scheduled to undergo TRUS-guided prostate biopsies. He has a severe allergy to ciprofloxacin. The best antibiotic regimen is:

    A. trimethoprim and sulfamethoxazole orally twice daily for three days.
    B. cefuroxime 500 mg orally twice daily for three days.
    C. levofloxacin 500 mg orally once daily for three days.
    D. gentamicin 5 mg/kg I.V. 30 minutes prior to the biopsy.
    E. ceftriaxone 1 gm I.V. 30 minutes prior to the biopsy.

11. A 78-year-old woman with history of anaphylactic reaction to penicillin, renal insufficiency (Cr 2.3) has right-sided flank pain and high fever. Recent culture revealed E. coli with sensitivity to nitrofurantoin, gentamicin, ceftriaxone, and intermediate sensitivity to ciprofloxacin. The next step is to admit her to the hospital and start:

    A. ciprofloxacin.
    B. gentamicin.
    C. imipenem.
    D. ceftriaxone with diphenhydramine and hydrocortisone.
    E. ciprofloxacin and nitrofurantoin.

12. A 17-year-old boy has a left radical orchiectomy for a pathologic T2 5 cm tumor, which is 70% embryonal cancer and 30% teratoma. He has a 2 cm para-aortic adenopathy and no other visible metastases. His initial markers show an AFP of 7,000 IU/ml and a normal beta-hCG. Two weeks later, his beta-hCG is normal and his AFP is 5,000 IU/ml. The next step is:

A. repeat tumor markers in two weeks.
B. three cycles BEP.
C. four cycles etoposide and cisplatin.
D. four cycles of BEP.
E. RPLND.

13. A 58-year-old man develops abdominal pain and fever to 101° F three days after left radical nephrectomy. He is treated with I.V. antibiotics. The next day, the previously dry incision leaks 100 ml of cloudy fluid (pH 9.5, amylase 8,000 U/l). CT scan shows a 5 cm fluid collection in the left renal fossa. The next step is a naso-gastric tube and:

A. low triglyceride diet.
B. percutaneous drainage and TPN.
C. open surgical drainage.
D. open ligation of fistula site and drainage.
E. distal pancreatectomy and drainage.

14. Cystine calculi can be diagnosed with the following test:

A. sodium nitroprusside.
B. phenolphthalein.
C. thiazide challenge.
D. serum pH.
E. serum chloride.

15. A 54-year-old man has a muscle invasive urothelial carcinoma on TURBT. The preoperative CT scan shows loss of the fat plane on the right side of the bladder. The next step is:

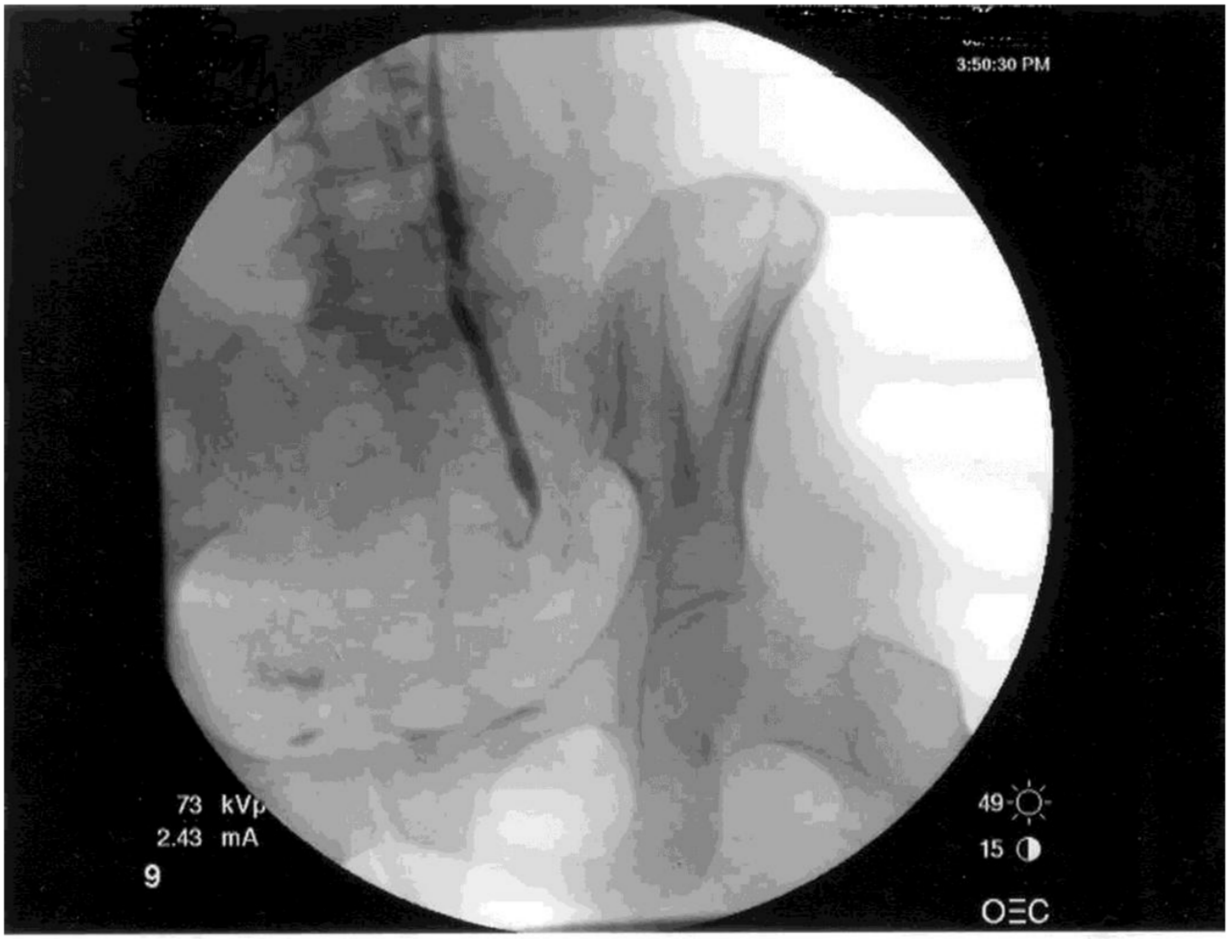
A. PET scan.
B. MRI scan.
C. neoadjuvant chemotherapy.
D. XRT.
E. cystectomy.

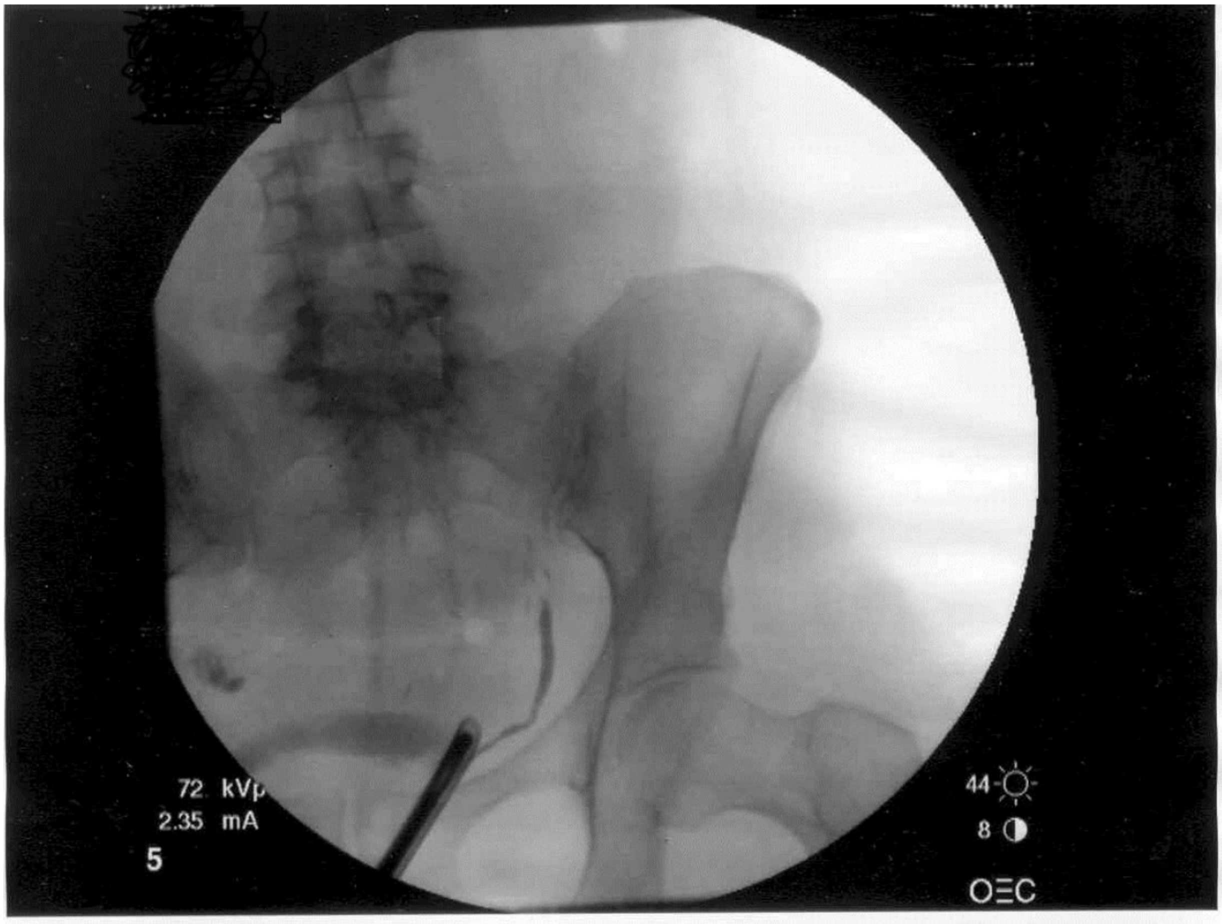
16. The renal toxicity of intravenous contrast material is due to:

A. glomerular injury.
B. afferent arteriolar constriction.
C. efferent arteriolar constriction.
D. intrarenal vasoconstriction and tubular necrosis.
E. efferent arteriolar dilation and tubular necrosis.

17. A 46-year-old woman sustained a ureteral injury during an abdominal hysterectomy for fibroids six weeks ago. A left percutaneous nephrostomy tube was placed. A retrograde ureterogram and an antegrade pyeloureterogram are shown. The next step is:

A. balloon dilation.
B. endoureterotomy.
C. ureteroureterostomy.
D. ureteral reimplant with psoas hitch.
E. ureteral reimplant with Boari flap.

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18. A 38-year old man is referred for prostate cancer screening. According to the AUA Guidelines, the next step is:

    A. advise against screening.
    B. initiate yearly screening.
    C. initiate yearly screening if positive family history or African American.
    D. initiate biennial screening.
    E. screen now and repeat in five years.

19. A 67-year-old man has a rectourethral fistula one year after cryotherapy for localized prostate cancer. An initial fulguration failed and six months ago, he underwent proximal colostomy and suprapubic tube placement. He continues to have urine leakage per rectum and recurrent UTIs. Biopsy of the prostate shows no cancer and serum PSA is 0.3 ng/ml. The best therapy is:

A. pelvic exoneration.
B. transabdominal repair.
C. urinary diversion.
D. salvage prostatectomy.
E. York Mason transrectal, transsphincteric repair.

20. A 76-year-old man with insulin dependent diabetes returns six years after artificial urinary sphincter (AUS) placement with difficulty emptying his bladder despite appropriate action of his control pump. Examination reveals perineal induration without fluctuance or tenderness. Urinalysis is normal and PVR is 250 cc. Urodynamics reveals low pressure voiding with incomplete emptying. Urethroscopy shows no evidence of erosion. The next step is:

A. ciprofloxacin.
B. deactivate cuff.
C. initiate CIC.
D. pelvic CT scan.
E. remove AUS.

21. In a testicular cancer patient, positron emission tomography (PET):

A. has decreased sensitivity due to high cell turnover of germ cell tumors.
B. is most useful at the time of initial diagnosis.
C. is most useful in patients with lung nodules.
D. has good sensitivity for post-chemotherapy seminomas.
E. can distinguish teratoma versus fibrosis.

22. A 62-year-old man develops penile pain three months after implantation of an inflatable penile prosthesis. He denies fever or chills. The prosthesis is functional and in excellent position. Tenderness is localized to the left corpus. WBC count and urinalysis are normal. The most likely cause of the penile pain is:

A. oversized cylinder.
B. prosthetic erosion.
C. corporal fibrosis.
D. staphylococcal infection.
E. psychogenic.

23. A 55-year-old man with a history of chronic bacterial prostatitis experiences urosepsis during induction chemotherapy for small cell lung cancer. Urine culture is positive for E. coli resistant to trimethoprim/sulfamethoxazole and ciprofloxacin; sensitive to nitrofurantoin, tobramycin, amikacin, and meropenem. Thorough urologic evaluation is normal except for documented persistence of the bacteria in the expressed prostatic secretions following a ten day course of I.V. meropenem. The next step is:

A. observation.
B. nightly prophylaxis with oral nitrofurantoin.
C. daily intravesical tobramycin instillation.
D. I.V. tobramycin for six to eight weeks.
E. TURP.

24. A 61-year-old woman underwent percutaneous cryoablation of a 2.4 cm renal mass one year ago. On follow-up imaging, the mass now measures 3 cm with some nodularity within the treatment zone. According to the AUA Guidelines, the next step is:

A. repeat imaging in six months.
B. repeat imaging in one year.
C. PET scan.
D. percutaneous biopsy.
E. repeat cryoablation.

25. Two months following closure of a traumatic bladder rupture associated with a pelvic fracture, a 20-year-old man has persistent urinary leakage through the suprapubic cystostomy site despite voiding. The diagnostic test most likely to diagnose the etiology of the problem is:

A. CT urogram.
B. pelvic MRI scan.
C. fistulogram.
D. cystourethroscopy.
E. urodynamics.

26. Two days after PCNL, a patient is febrile with abdominal pain, rebound, and guarding. A nephrostogram via the nephrostomy tube opacifies the colon and the renal pelvis. The next step is antibiotics and:

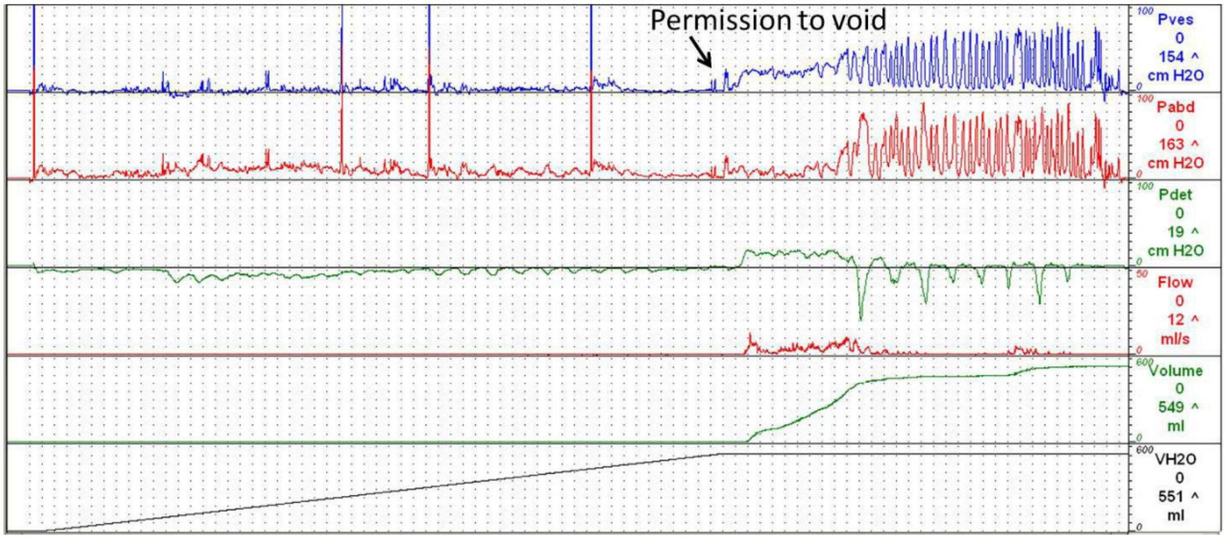
A. withdraw the nephrostomy tube into the colon.
B. remove nephrostomy tube and place ureteral stent.
C. withdraw the nephrostomy tube into the colon and place a ureteral stent.
D. withdraw the nephrostomy tube into the colon and place another nephrostomy tube into the kidney.
E. abdominal exploration, diverting colostomy, nephrostomy tube.

27. The use of μ-opioid receptor antagonists after radical cystectomy and urinary diversion is associated with:

A. increased cardiac events.
B. reduced opioid consumption.
C. reduced length of stay.
D. increased hospitalization costs.
E. reduced early readmission for post-operative ileus.

28. A 45-year-old woman has recurrent episodes of graft pyelonephritis following a kidney transplantation two years previously. She denies voiding symptoms when she is infection-free. Her renal function is normal and cystogram reveals reflux into the transplanted kidney. Urodynamics are shown. The next step is:

A. oxybutynin.
B. mirabegron.
C. suppressive antibiotics.
D. non-refluxing ureteral reimplant.
E. decrease immunosuppression dose.



29. The best treatment for a symptomatic 1.5 cm proximal ureteral stone is:

A. medical expulsive therapy.
B. in situ SWL.
C. stent placement and SWL.
D. ureteroscopy and laser lithotripsy.
E. percutaneous stone removal.

30. Compared to typical prostate adenocarcinoma, prostatic ductal adenocarcinoma often exhibits:

A. less aggressiveness and lower PSA.
B. abnormal DRE and higher PSA.
C. increased sensitivity to radiation.
D. more aggressiveness and more frequent obstructive symptoms.
E. should be treated with neoadjuvant systemic chemotherapy.

31. A 68-year-old woman with a history of a lengthy ureteral stricture developing following pelvic surgery and radiation therapy is managed with a chronic indwelling ureteral stent. At the time of stent exchange, she develops profuse bright red blood per ureteral orifice that stops within five minutes of stent placement, the next step is:

A. observation and stent exchange in three months.
B. placement of nephrostomy tube and removal of the ureteral stent.
C. radiologic placement of an endovascular stent.
D. oversewing of arterial fistula, ureteroureterostomy, omental wrap around the ureter, and extraperitoneal lateralization of the ureter.
E. vascular bypass procedure and nephrostomy tube placement.

32. A 32-year-old anorexic woman with a history of seizures has recurrent urolithiasis. On a 24- hour urine, pH is 7.0 and urinary citrate is 45 (normal>450 mg/day) The medication responsible for her stone disease is:

A. indinavir.
B. guaifenesin.
C. carbamazepine.
D. topiramate.
E. ephedrine.

33. A 66-year-old man undergoes a radical cystectomy and ileal conduit for pT2N0 urothelial carcinoma of the bladder. Final pathology demonstrates CIS at the right ureteral margin. The next step is:

A. surveillance.
B. brush biopsy of ureteral anastomosis.
C. BCG via nephrostomy tube.
D. distal ureterectomy and reimplantation.
E. nephroureterectomy.

34. A 57-year-old man develops fever, nausea, and increasing abdominal pain seven days following a laparoscopic nephrectomy. Despite bowel rest and antibiotics, he develops worsening symptoms. A KUB reveals free air in the abdominal cavity with dilated loops of small bowel. The next step is:

A. abdominal ultrasound.
B. barium enema.
C. CT scan of the abdomen with I.V. contrast.
D. CT scan of the abdomen with oral contrast.
E. immediate surgical exploration.

35. The most important benefit of using 60 versus 120 shocks per minute for SWL of a 9 mm proximal ureteral stone is:

A. reduced number of shocks.
B. reduced renal damage.
C. reduced anesthetic requirement.
D. reduced steinstrasse rate.
E. reduced retreatment rate.

36. A 52-year-old woman has an incidentally-detected right renal lesion on triphasic CT scan. The lesion is classified as complex due to a few hairline septae with fine calcifications noted within the wall, Hounsfield units of 8 is noted. The next step is:

A. no follow-up necessary.
B. ultrasound in six months.
C. CT scan in six months.
D. CT scan in one year.
E. biopsy or fine needle aspiration of lesion.

37. A 68-year-old man with bothersome voiding dysfunction completes a voiding diary revealing 12 voids in 24 hours with volumes ranging from 30 ml to 150 ml, nocturia x 3, and one episode of incontinence. PVR is 50 ml. Uroflowmetry reveals a flattened pattern with a peak flow of 6 ml/sec. His condition is best described as:

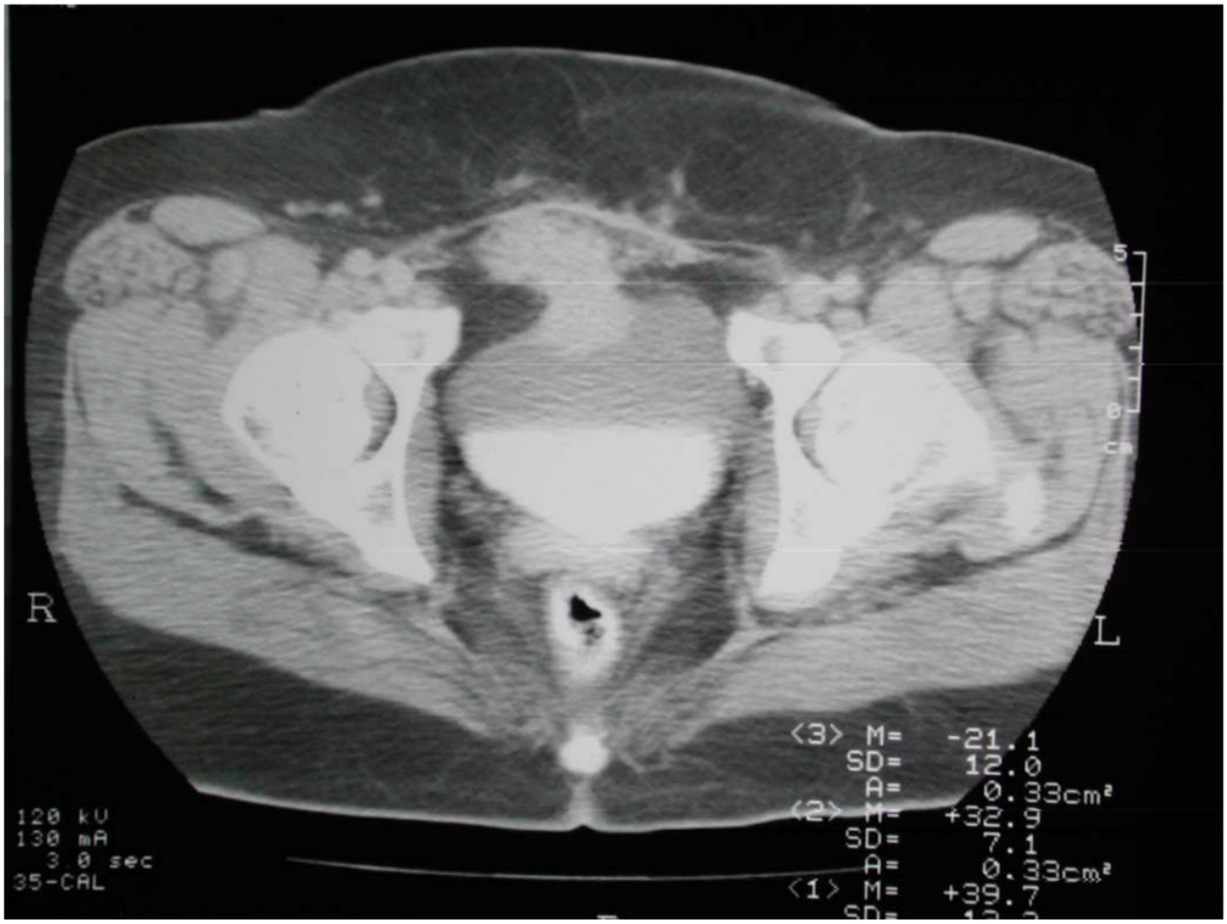
A. BPH.
B. benign prostatic obstruction.
C. detrusor overactivity.
D. detrusor underactivity.
E. LUTS.

38. According to the AUA Guidelines, a patient with progressive metastatic castrate resistant prostate cancer having pain controlled with acetaminophen should be offered treatment with:

A. observation.
B. sipuleucel-T.
C. cabazitaxel.
D. radium-223
E. mitoxantrone.

39. A 35-year-old woman with urinary urgency and frequency has a pelvic mass and gross hematuria. Cystoscopy and biopsy of the mass reveals endometriosis. A CT cystogram after four months of a GnRH agonist is shown. The next step is:

A. CT urogram.
B. repeat biopsy of mass.
C. transurethral resection of mass.
D. partial cystectomy.
E. radical cystectomy with urinary diversion.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L
<3> M= -21.1
SD= 12.0
A= 0.33cm²
<2> M= +32.9
SD= 7.1
A= 0.33cm²
<1> M= +39.7
120 kV
130 mA
3.0 sec
35-CAL

40. The diminished long term effectiveness of thiazides in the treatment of hypercalciuria is mediated by:

A. increased dietary sodium.
B. increased serum calcitonin.
C. increased parathyroid hormone.
D. decreased urinary magnesium.
E. increased gastrointestinal absorption of calcium.

41. A 25-year-old woman has recurrent pan-sensitive E. coli UTIs with urgency and frequency but no fever. The next step is:

A. post-coital voiding.
B. nightly trimethoprim-sulfamethoxazole.
C. nightly fluoroquinolone.
D. abdominal ultrasound.
E. cystoscopy.

42. A novel medication is being studied to determine efficacy in reducing urinary frequency in patients with overactive bladder. The best statistical method to compare the mean number of voiding episodes per day in three groups of subjects receiving either one of two doses of the medication or placebo is:

A. ANOVA (analysis of variance).
B. chi-square test.
C. Pearson r test.
D. t-test.
E. Spearman rank order.

43. A 65-year-old woman undergoes a retropubic midurethral synthetic sling and is unable to void after surgery. At one month, she is still catheterizing herself and is unable to void on her own. The next step is:

A. continue CIC and reassess at three months.
B. urethral dilation.
C. sling incision.
D. transvaginal urethrolysis.
E. suprameatal urethrolysis.

44. In utero myelomeningocele closure has a favorable impact on:

A. incidence of spinal cord tethering.
B. bladder continence.
C. bowel function.
D. the need for ventriculo-peritoneal shunting.
E. complications at delivery.

45. A risk factor for systemic allergic-type reactions to radiocontrast media is:

A. povidone-iodine (Betadine) allergy.
B. African-American ethnicity.
C. asthma.
D. obesity.
E. diabetes.

46. A 64-year-old, T4 paraplegic man on CIC is admitted for treatment of pneumonia. He suddenly develops a severe headache and has a heart rate of 42 bpm, and blood pressure of 210/130 mmHg. The next step is:

A. sublingual nifedipine.
B. sublingual terazosin.
C. oral nitroglycerine.
D. nitroglycerine paste.
E. place a urethral catheter.

47. During testosterone replacement therapy for androgen deficiency, significant mood swings, and variations in libido are most likely to develop when using:

A. testosterone enanthate.
B. testosterone gel.
C. transdermal testosterone patch.
D. methyltestosterone.
E. subcutaneous testosterone pellets (Testopel™).

48. An eight-year-old boy with a large expanding cystic right testicular mass has normal tumor markers and organ confined mature testicular teratoma on radical orchiectomy. The next step is:

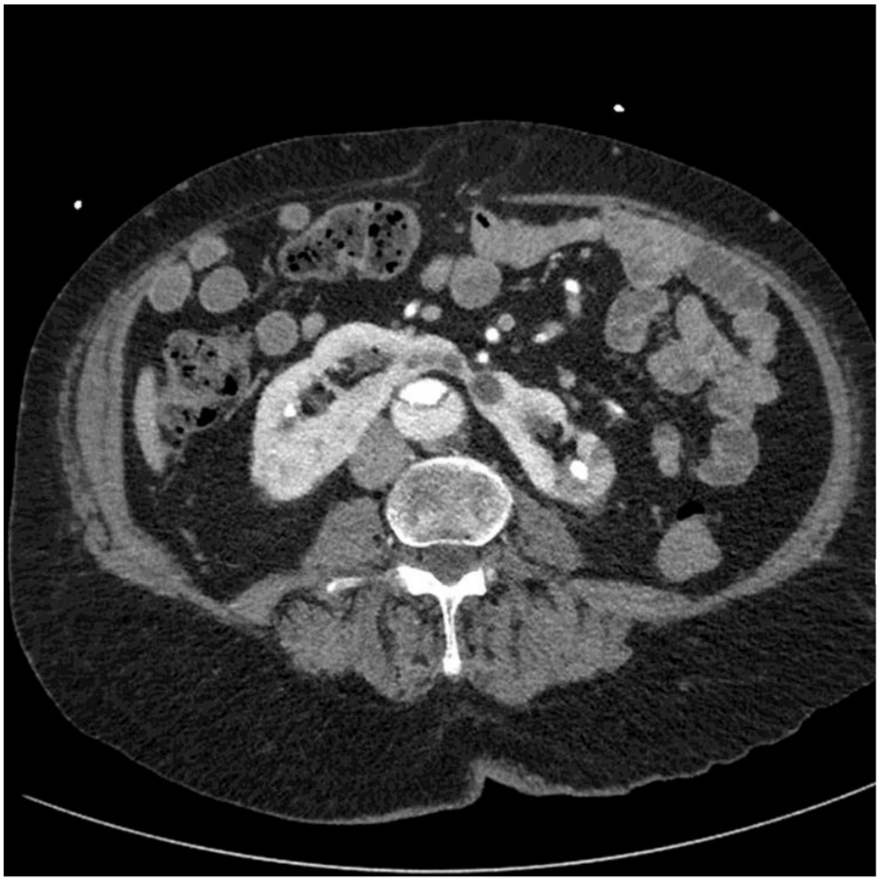
A. serial examination.
B. abdomen and pelvis CT scan.
C. serial tumor markers.
D. RPLND.
E. platinum-based chemotherapy.

49. A man with erectile dysfunction is given a test dose of intraurethral alprostadil 1000 mcg, and achieves complete rigidity. He complains of penile, scrotal, and leg pain during the erection. The next step is:

A. reassurance.
B. oral terbutaline.
C. intraurethral lidocaine.
D. methylene blue intracavernosal injection.
E. phenylephrine intracavernosal injection.

50. Compared to a normal kidney, the percutaneous access for nephrolithotomy in the kidney shown will be more:

A. superior and medial.
B. inferior and medial.
C. superior and lateral.
D. inferior and lateral.
E. posterior and medial.



51. The right adrenal vein enters:

A. right renal vein.
B. right inferior phrenic vein.
C. right gonadal vein.
D. IVC.
E. ascending lumbar vein.

52. Three years after placement of a sacral neuromodulator for refractory urinary urgency and urgency incontinence, a 45-year-old woman develops new symptoms of blurred vision, numbness in her lower extremities, and significant exacerbation of her urinary symptoms. The next step is:

A. anterior, posterior and lateral radiograph of the sacrum.
B. reprogramming of the device.
C. MRI scan of the brain and spine.
D. surgical revision of the impulse generator.
E. removal of the device.

53. A 38-year-old woman with recurrent nephrolithiasis has a serum calcium of 10.8 mg/dl and serum parathyroid hormone level of 85 pg/ml. After administration of thiazide, serum calcium is 11.8 mg/dl. She is currently stone free. The treatment that will best reduce her risk of nephrolithiasis is:

A. sodium restriction.
B. potassium citrate.
C. low calcium diet.
D. orthophosphates.
E. parathyroidectomy.

54. A novel medication is being studied for the treatment of urinary frequency. The best statistical method to compare the mean number of voiding episodes per day in subjects receiving the medication versus those receiving placebo is:

A. chi-square test.
B. ANOVA (analysis of variance).
C. Pearson r test.
D. t-test.
E. Spearman rank order test.

55. Three years following placement of a retropubic midurethral sling, a 58-year-old woman has recurrent stress urinary incontinence. Valsalva LPP is 32 cm H_2O with a stable bladder and a capacity of 400 ml. The urethra is well-supported. The best option is:

A. pelvic floor muscle training.
B. imipramine.
C. Burch urethropexy.
D. transobturator sling.
E. autologous fascial sling.

56. A 60-year-old paraplegic woman with multiple medical problems has an ileal conduit because she was unable to perform intermittent catheterization. She develops pyocystis unresponsive to three weeks of oral ciprofloxacin. Pyocystis recurs one week following three days of intravesical bladder irrigation with neomycin. The next step is:

A. formalin bladder irrigation.
B. suprapubic cystotomy.
C. broad spectrum I.V. antibiotics.
D. vesicovaginostomy.
E. convert to ileovesicostomy.

57. A six-year-old boy undergoes right pyeloplasty and pyelolithotomy for UPJ obstruction and 1 cm renal pelvic stone. The stone is composed of calcium oxalate. Three months post-op, ultrasound shows improved hydronephrosis and diuretic renography shows no obstruction. The next step is:

A. observation.
B. metabolic stone evaluation.
C. low oxalate diet.
D. hydrochlorothiazide.
E. potassium citrate.

58. A unique challenge of robotic vesicovaginal fistula repair as compared to robotic sacrocolpopexy is:

A. adequate exposure.
B. ease of suturing.
C. maintaining pneumoperitoneum.
D. avoiding ureteral injury.
E. port site complications.

59. Eighteen hours after a radical nephrectomy, a 35-year-old man has a high grade fever, pain, and impressive erythema at the operative site associated with a thin, watery discharge from the incision. The infection is most likely caused by:

A. Clostridium perfringens.
B. beta-hemolytic streptococci.
C. Staphylococcus aureus.
D. Pseudomonas aeruginosa.
E. Candida albicans.

60. A four-year-old boy who recently emigrated from Ethiopia has gross hematuria. There is no history of UTI. KUB demonstrates a 2 cm bladder stone. The most likely stone composition is:

A. ammonium acid urate.
B. calcium oxalate.
C. calcium phosphate.
D. cystine.
E. struvite.

61. A 55-year-old woman has dyspareunia several months after a mid-urethral sling. She has no residual urinary symptoms. Examination reveals 2 cm of mesh exposure along the anterior vaginal wall and urinalysis is normal. The next step is:

A. observation with secondary healing.
B. topical estrogen cream.
C. excision of exposed mesh and closure of vaginal wall defect.
D. excision of exposed mesh and repeat synthetic midurethral sling.
E. excision of exposed mesh and autologous fascial sling.

62. The finding on a high dose dexamethasone suppression test (2 mg every six hours) that establishes the diagnosis of Cushing's disease is:

A. suppression of urinary 17-hydroxycorticosteroids.
B. no change in urinary 17-hydroxycorticosteroids.
C. elevation of urinary 17-hydroxycorticosteroids.
D. suppression of urinary 17-ketosteroids.
E. elevation of serum ACTH.

63. Prenatal ultrasonography in a 22-week fetus shows bilateral hydroureteronephrosis. The parameter most predictive of a poor postnatal renal outcome is:

A. oligohydramnios.
B. a persistently distended bladder.
C. diameters of the renal pelves.
D. renal cortical thinning.
E. echogenic kidneys.

64. During a robotic sacrocolpopexy, a patient has tachycardia and hypercarbia. In addition to increasing respiratory rate, the next step is:

A. increase positive end expiratory pressure (PEEP).
B. I.V. fluid bolus.
C. check arterial blood gas.
D. decrease the insufflation pressure.
E. take the patient out of steep Trendelenburg.

65. A 27-year-old man on an alpha-blocker for hypertension undergoing an infertility evaluation has a normal physical examination. Two semen analyses demonstrate volumes of less than 1 ml, pH of 7.4, normal viscosity, and sperm counts in the range of 60 million/ml with 80% motility and 8% normal forms. The following test provides the most useful information:

A. TRUS.
B. postejaculatory urinalysis.
C. serum testosterone.
D. serum FSH and LH.
E. serum prolactin.

66. A 15-year-old girl involved in a car versus pedestrian accident sustains a fracture of her left ischiopubic ramus with diastasis of the sacroiliac joint. Urinalysis has 5-10 RBC's and there is blood at the introitus. CT scan with contrast shows no renal fracture. The next step is:

A. observation.
B. DRE.
C. VCUG.
D. flexible cystoscopy.
E. cystoscopy and vaginoscopy.

67. A morbidly obese woman has crepitus along the abdomen and thorax and mild hypercarbia four hours into a laparoscopic radical nephrectomy. The next step is:

A. confirm trocars are in intraperitoneal location.
B. relocate gas insufflation to a different trocar.
C. increased respiratory rate.
D. increase tidal volume.
E. convert to open nephrectomy.

68. The treatment of idiopathic oligospermia with human chorionic gonadotropin is most likely to result in:

A. elevation of serum testosterone.
B. increased sperm concentration.
C. improved sperm motility.
D. increased pregnancy rate.
E. increased seminal volume.

69. A six-month-old boy has a non-palpable left testis. The contralateral testis is descended and normal in size. The next step is:

A. inguinal scrotal ultrasound.
B. abdominal CT scan.
C. left scrotal exploration.
D. diagnostic laparoscopy.
E. hCG treatment.

70. While starting a planned placement of an artificial urinary sphincter (AUS), an 8 Fr bladder neck contracture is noted cystoscopically after a 14 Fr catheter is unable to be placed. The next step is:

    A. place an 8 Fr urethral catheter and proceed with AUS placement.
    B. dilate the bladder neck contracture, place a larger catheter and proceed with AUS placement.
    C. transurethrally resect the bladder neck, place a larger catheter and proceed with AUS placement.
    D. transurethrally resect the bladder neck, inject the resected bladder neck area with steroids and proceed with AUS placement.
    E. transurethrally resect the bladder neck and proceed with AUS placement three months later once assured the bladder neck remains open.

71. The primary advantage of ultrasound for SWL stone localization is:

    A. capability for continuous real-time monitoring.
    B. short learning curve.
    C. multifunctional use for diagnosis and endourological treatment.
    D. ability to identify ureteral calculi.
    E. efficacy in clinical situations with multiple calculi.

72. Regarding family members of a child with VUR, the 2012 AUA Reflux Guidelines recommend VCUG screening in:

    A. all siblings.
    B. all offspring.
    C. any non-toilet-trained sibling.
    D. any sibling with prenatal hydroureteronephrosis.
    E. any sibling with prenatal bilateral pelviectasis.

73. A 24-year-old man with a T4 complete spinal cord injury who manages his bladder with CIC every six hours complains of increased lower extremity spasms during the past week. Urine culture reveals 100 cfu/ml E. coli. He denies urinary urgency or incontinence. The next step is:

    A. observation.
    B. antibiotics.
    C. antibiotics if pyuria present.
    D. baclofen.
    E. urodynamics.

74. A 22-year-old woman with recurrent febrile E. coli UTIs wants to become pregnant. CT scan shows a normal left kidney and an atrophic, scarred right kidney with less than 5% function on a DMSA scan. VCUG shows no reflux. The next step is:

A. indium-labeled WBC scan.
B. preventive antimicrobial therapy.
C. bilateral ureteral catheterization with cultures.
D. fluorescent bacterial antibody testing.
E. right nephrectomy.

75. A three-year-old girl has a right 9 cm lower pole renal mass and a left 2 cm upper pole renal mass without lymphadenopathy on CT scan. The next step is:

A. percutaneous renal mass biopsies.
B. open renal mass biopsies.
C. neoadjuvant chemotherapy and repeat CT scan at six weeks.
D. right nephrectomy and left partial nephrectomy.
E. bilateral partial nephrectomies.

76. A 60-year-old man being evaluated for renal transplantation has urinary frequency and decreased force of stream. He is on tamsulosin. DRE reveals a benign 30 gm prostate. Voiding diary reveals voided volumes of 50-75 ml/void and a total voided volume of 400 ml/24 hours. Maximum flow rate is 8 ml/second and Pdet Qmax is 80 cm H_2O on pressure flow urodynamics. Postvoid residual urine is 0 ml. The next step is:

A. finasteride.
B. onabotulinumtoxinA.
C. TUIP.
D. TURP.
E. evaluate bladder symptoms after transplant.

77. The following correlates with improved patency rates after vasectomy reversal:

A. absence of sperm granuloma.
B. increased diameter of proximal vas.
C. multi-layered anastomosis.
D. length of the proximal vas.
E. increase in cross-sectional tubular area of the testis.

78. A three-year-old boy has a 1 cm area of erythema and swelling of the foreskin for 24 hours. He last voided with severe dysuria six hours ago. He has no fever. The next step is:

A. observation.
B. topical antibiotic.
C. topical testosterone.
D. oral antifungal.
E. dorsal preputial slit.

79. A 62-year-old man with a history of metastatic prostate cancer and erectile dysfunction develops priapism for the past five days. He denies using any erectogenic medications and complains of persistent penile pain. Corporal blood gas reveals pH 7.35, pCO_2 50 mmHg, and pO_2 40 mmHg. The next step is:

A. oral terbutaline.
B. sympathomimetic cavernosal injection.
C. proximal bulbo-cavernosal shunt.
D. selective embolization.
E. corporal biopsy.

80. Hypertension in Cushing's syndrome is primarily related to:

A. elevated plasma catecholamines.
B. elevated plasma aldosterone.
C. retention of water and salt.
D. ACTH-stimulated renin.
E. elevated angiotensin II.

81. Monitoring for adenocarcinoma of the bladder after a sigmoid bladder augmentation cystoplasty is best performed by yearly:

A. urine cytology.
B. urine fluorescence in-situ hybridization (FISH) analysis.
C. serum carcinoembryonic antigen (CEA) level.
D. renal and bladder ultrasound.
E. cystoscopy.

82. A 60-year-old man with LUTS and an AUA Symptom Score of 18 has a PVR of 200 ml. This residual volume is:

A. associated with recurrent pyelonephritis.
B. an indication for surgical therapy.
C. of limited clinical utility.
D. highly correlated with urinary symptoms.
E. predictive of outcome after surgery.

83. A 68-year-old asymptomatic man receives two six-week courses of intravesical BCG for recurrent bladder tumors. A new firm area in the prostate is noted on DRE. Serum PSA is 3.0 ng/ml. Ultrasound-directed needle biopsy of the lesion reveals a caseating granuloma. The next step is:

A. observation.
B. repeat prostate biopsies in three months.
C. cycloserine for six months.
D. isoniazid for six months.
E. isoniazid and rifampin for six months.

84. A five-year-old girl with a horseshoe kidney has moderate left hydronephrosis and a 2.1 cm renal pelvis stone. The next step is:

- A. ureteral stent.
- B. SWL.
- C. ureteroscopic laser lithotripsy.
- D. PCNL via lower pole access.
- E. laparoscopic pyelolithotomy.

85. A 54-year-old woman undergoes intradetrusor injection of 100 units of onabotulinumtoxinA for symptoms of urgency, frequency, and urgency urinary incontinence. Two weeks later, she complains of worsening frequency, urgency, and urinary incontinence. The next step is urinalysis and:

- A. PVR.
- B. urodynamics.
- C. mirabegron.
- D. immediate reinjection of an additional 100 units of onabotulinumtoxinA.
- E. reinject an additional 100 units of onabotulinumtoxinA in three months.

86. A 21-year-old man had a right inguinal orchiectomy for a clinical Stage I mixed germ cell tumor. He was observed and seven months later, a 4 cm mass is seen on the abdominal CT scan in the interaorto-caval region. The chest x-ray, beta-hCG, and AFP are normal. The next step is:

- A. retroperitoneal XRT.
- B. percutaneous biopsy of retroperitoneal mass.
- C. cisplatin-based chemotherapy.
- D. right modified template RPLND.
- E. full bilateral RPLND.

87. DDAVP causes absorption of water by exerting its effects on:

- A. juxtaglomerular apparatus.
- B. distal tubule.
- C. macula densa.
- D. loop of Henle.
- E. collecting ducts.

88. An 85-year-old man has bothersome LUTS. He underwent TURP 12 years ago. Urinalysis and urine cytology are negative. The most important test before considering repeat TURP is:

- A. serum creatinine.
- B. residual urine.
- C. uroflowmetry.
- D. cystoscopy.
- E. pressure-flow study.

89. A 23-year-old man is referred for treatment after a left trans-scrotal orchiectomy. Pathology shows an embryonal cell carcinoma mixed with elements of seminoma. AFP, beta-hCG, and chest x-ray are normal. No inguinal lymph nodes are palpable. In addition to excision of the left spermatic cord, treatment should include:

A. hemiscrotectomy.
B. left superficial inguinal lymph node dissection.
C. biopsy of left sentinel inguinal node.
D. radiation of left inguinal nodes.
E. observation of inguinal nodes.

90. A six-month-old boy is scheduled for elective hypospadias repair. Instructions given to his parents regarding his NPO pre-op fluid status include:

A. NPO after midnight.
B. clear fluids until one hour prior to anesthesia.
C. breast milk until four hours prior to anesthesia.
D. formula until four hours prior to anesthesia.
E. any fluids until four hours prior to anesthesia.

91. The best time to perform urodynamics on a patient after a complete T4 spinal cord injury is:

A. during the initial in-patient rehabilitation stay.
B. at the initial sign of urinary incontinence.
C. after the patient has learned to perform CIC.
D. three months after the initial injury.
E. after the return of deep tendon reflexes.

92. A 35-year-old man has persistent retroperitoneal lymphadenopathy after cisplatin-based chemotherapy for NSGCT. The parameter most predictive of finding only fibrosis in the retroperitoneum is:

A. normalization of serum hCG.
B. 50% reduction in size of the mass on CT scan.
C. pure embryonal cell carcinoma in the primary tumor.
D. normalization of serum alpha-fetoprotein.
E. teratoma in the primary tumor.

93. A six-year-old boy with the history of a neonatally ablated PUV has worsening bilateral hydroureteronephrosis. He is incontinent at night and occasionally wet during the day. A 24-hour urine collection shows a urine volume of two liters. Videourodynamics shows no detrusor overactivity, no residual valves, and no VUR. Along with more frequent daytime voiding, the next step is:

A. decreased fluid intake.
B. dietary salt restriction.
C. DDAVP.
D. CIC.
E. continuous night time catheterization.

94. The main disadvantage of bladder autoaugmentation is:

A. increased operative time.
B. decreased bladder compliance.
C. limited increase in bladder capacity.
D. increased risk of perforation.
E. increased complication rate of subsequent enterocystoplasty.

95. A 60-year-old man with squamous cell carcinoma of the penis invading the right corpus cavernosum undergoes partial penectomy. After six weeks of cephalexin, a 3.5 cm right inguinal lymph node has decreased in size to 2.0 cm. Pelvic CT scan is normal. The next step is:

A. reevaluation in three months.
B. needle aspiration of the suspicious node.
C. sentinel node biopsy.
D. bilateral inguinal node dissection.
E. right inguinal node dissection.

96. A 25-year-old woman has a chronic history of intermittent urinary stream and a lower abdominal discomfort without significant urinary urgency. Physical exam is normal and PVR is 1 liter. MRI scan of the brain and spine is normal, as is cystoscopy. Pressure flow analysis shows an active EMG during voiding. She has failed treatment with biofeedback and prefers not to do CIC. The next step is:

A. vaginal estrogen therapy.
B. alpha-blocker therapy.
C. onabotulinumtoxinA of the sphincter.
D. sacral neuromodulation.
E. sphincterotomy.

97. During a penile plication for a 50 degree ventral penile curvature with palpable plaque, the deep dorsal vein is inadvertently transected. The next step is:

A. abort procedure and reattempt three months later.
B. ligate deep dorsal vein and continue with plication.
C. primary repair of deep dorsal vein and continue with plication.
D. anastomose deep dorsal vein to inferior epigastric vein and continue with plication.
E. convert to excision and grafting procedure.

98. The drug with the most rapid onset of action in treating BCG sepsis is:

A. isoniazid.
B. rifampin.
C. ethambutol.
D. para-aminosalicylic acid.
E. cycloserine.

99. A nine-year-old girl who recently emigrated from Japan has recurrent right flank pain and urolithiasis with SWL being unsuccessful in the past. Renal ultrasound shows two right 8 mm renal calculi and moderate hydronephrosis. Urinalysis shows hexagonal-shaped crystals. The most likely cause of her urolithiasis is:

A. hypercalciuria.
B. hyperuricosuria.
C. cystinuria.
D. low urinary volume.
E. UPJ obstruction.

100. A 32-year-old man with a testosterone of 223 ng/dl has low energy, low libido and increased fatigue. He and his female partner are currently trying to conceive. Semen analysis demonstrates oligoasthenoteratospermia. Physical exam is normal. The next step is:

A. topical testosterone.
B. subcutaneous testosterone.
C. human chorionic gonadotropin.
D. scrotal ultrasound.
E. testis biopsy.

101. The treatment most likely to cause painful gynecomastia is:

A. leuprolide.
B. leuprolide and bicalutamide.
C. ketoconazole.
D. bicalutamide.
E. finasteride.

102. A three-year-old boy is referred for bilateral undescended testes. On examination, both testes can be manipulated into a dependent scrotal position where they remain transiently upon fatigue of the cremasteric muscle. The next step is:

A. follow-up in one year.
B. LH and FSH measurement.
C. ultrasound and measurement of testis volume.
D. hCG injections.
E. bilateral scrotal orchiopexies.

103. The use of quick connectors when performing an artificial urinary sphincter (AUS) revision:

A. allows for the best, watertight connection.
B. minimizes the risk of device infection peri-operatively.
C. should not be used due to biofilm formation.
D. should not be used due to tubing size mismatch.
E. are equivalent to hand-tie connectors.

104. The manifestation of the von Hippel-Lindau syndrome that tends to be clustered only within a subset of affected families is:

A. RCC.
B. pheochromocytoma.
C. retinal angioma.
D. cerebellar hemangioblastoma.
E. epididymal papillary cystadenoma.

105. A four-month-old girl has a two-day history of fever. She is being followed for bilateral grade 2 hydronephrosis that was diagnosed antenatally. She is hemodynamically stable and no localizing signs are found on physical exam. A bagged urine specimen reveals 8-10 WBC/hpf and is nitrite positive. The next step is:

A. observation.
B. oral antibiotics.
C. I.V. antibiotics.
D. catheterized urine culture.
E. repeat ultrasound.

106. A 35-year-old man with spina bifida has urinary incontinence despite CIC every three hours. Urodynamics show detrusor overactivity and detrusor LPP of 60 cm H_2O at 200 ml. Continence is achieved two weeks after intradetrusor injection of 200 units of onabotulinumtoxinA. The next step is:

A. increase time between catheterizations.
B. repeat onabotulinumtoxinA in six months.
C. repeat onabotulinumtoxinA when incontinence returns.
D. repeat onabotulinumtoxinA when urodynamic evidence of detrusor overactivity returns.
E. repeat urodynamics now.

107. A 59-year-old man with a history of liver transplantation has a 1 cm raised, tender, penile lesion at the coronal sulcus dorsally. Incisional biopsy reveals Kaposi's sarcoma. The next step is:

A. decrease immunosuppression.
B. topical 5-FU.
C. local excision.
D. CO_2 laser ablation.
E. partial penectomy.

108. A newborn has endoscopic ablation of PUV. Three months later, he has a febrile UTI despite being maintained on prophylactic antibiotics. Follow-up ultrasound demonstrates persistent bilateral grade 4 hydroureteronephrosis. Creatinine is 1.0 mg/dl. The next step is:

A. MR urogram.
B. VCUG.
C. urodynamics.
D. change prophylactic antibiotics.
E. vesicostomy.

109. According to the 2011 FDA notification, the use of vaginal mesh in pelvic organ prolapse surgery:

A. should never be done.
B. should only be done by physicians board-certified in Female Pelvic Medicine and Reconstructive Surgery.
C. has equivalent complication rates compared to mesh placed via an abdominal approach.
D. may result in rare complications if performed by an experienced vaginal surgeon.
E. may result in improved anatomic but equivalent symptomatic outcomes compared to transvaginal repairs without mesh.

110. During a radical cystectomy a small 3 mm papillary lesion is noted at the proximal margin of the transected ureter. Frozen section reveals a low grade Ta urothelial cell carcinoma. The next step is:

A. re-resect ureter until margin negative.
B. treat with BCG via diversion stent post-op.
C. flexible ureteropyeloscopy.
D. resect ureter and ileal ureter interposition.
E. nephroureterectomy.

111. A ten-year-old boy has day and night urinary incontinence. Uroflow with simultaneous EMG reveals a maximum flow rate of 7 ml/sec with good relaxation of the pelvic musculature and an eight second lag between the onset of EMG quiescence and initiation of flow. VCUG shows a normal urethra with a PVR of 100 ml. The next step is:

A. double voiding.
B. pelvic floor retraining.
C. alpha-blockers.
D. CIC.
E. external sphincteric injection with onabotulinumtoxinA.

112. Optimal tumor destruction during laparoscopic renal cryoablation is achieved by:

A. intraoperative ultrasound-guided cryo probe placement.
B. placing the cryo probe tip at the center of the tumor.
C. obtaining a target temperature of -10^{o} C.
D. extending the cryo lesion 2 cm beyond the tumor margin.
E. performing an active single freeze-thaw cycle.

113. A 70-year-old man develops hematuria 18 months following a radical cystectomy and orthotopic neobladder. A urine cytology is positive for malignant cells. On cystoscopy, a focal area of erythema in the bulbar urethra reveals CIS. The next step is:

A. intraurethral BCG.
B. segmental urethrectomy.
C. segmental urethrectomy with perineal urethrostomy.
D. total urethrectomy.
E. XRT.

114. The nerve that must be intact for the cremasteric reflex is:

A. iliohypogastric.
B. genitofemoral.
C. lateral femoral cutaneous.
D. ilioinguinal.
E. femoral.

115. A 32-year-old man with chronic diarrhea is diagnosed with hypocitraturia. The best therapy is:

A. citrate repletion with lemonade.
B. potassium citrate tablet.
C. potassium citrate liquid.
D. sodium citrate liquid.
E. magnesium oxide tablet and pyridoxine hydrochloride tablet.

116. A 60-year-old man with CIS of the bladder received an induction course of BCG. Follow-up biopsy shows no residual tumor, and cytology shows mild atypia. The next step is:

A. cystoscopy and cytology in three months.
B. monthly BCG for one year.
C. three weeks of BCG at three and six months, then every six months for two years.
D. intravesical mitomycin C for six weeks.
E. an additional six weeks of BCG.

117. A three-year-old boy has a fever of 100° F, WBC count of 17,000, and purulent umbilical drainage. Pelvic ultrasound reveals a 2 cm complex mass between the umbilicus and dome of the bladder. The next step is antibiotics and:

A. cystoscopy.
B. incision, drainage and packing.
C. excision of urachus and partial cystectomy.
D. delayed excision of urachus.
E. chemical sclerosis of the sinus tract.

118. Normal semen pH (alkaline) is derived mainly from the:

A. prostate.
B. seminal vesicles.
C. testes.
D. vas deferens.
E. epididymis.

119. A 21-year-old man who underwent inguinal orchiectomy for a pure seminoma of the right testis has an 11 cm retroperitoneal mass. Serum beta-hCG and AFP are normal. Following three cycles of BEP, repeat CT scan demonstrates a residual 2 cm mass in the inter-aortocaval region. Chest CT scan is negative, and tumor markers remain normal. The next step is:

A. local excision of the mass.
B. RPLND.
C. observation.
D. salvage chemotherapy.
E. retroperitoneal XRT.

120. A nine-year-old boy has primary nocturnal enuresis. He has daytime urgency and frequency, but remains dry. He has used an alarm for four months without improvement. Urinalysis is normal. The next step is:

A. voiding diary.
B. urodynamics.
C. VCUG.
D. DDAVP.
E. oxybutynin.

121. A 24-year-old woman with cystic fibrosis undergoes ureteroscopic treatment of a calcium oxalate stone. The most likely etiology of stone formation is:

A. absent Oxalobacter formigenes.
B. absorptive hypercalciuria.
C. reduced urinary magnesium.
D. reduced urinary sodium.
E. renal tubular acidosis.

122. A 32-year-old woman has a two year history of hypertension treated with a diuretic. BP is 150/95, sodium 135 mEq/l, creatinine 0.8 mg/dl and potassium 2.7 mEq/l. The most likely diagnosis is:

A. essential hypertension.
B. aldosteronoma.
C. adrenal hyperplasia.
D. fibromuscular dysplasia.
E. Bartter's syndrome.

123. A two-year-old boy with stranguria develops gross hematuria. Urine culture is negative. Ultrasound shows normal kidneys and bladder. The next step is:

A. CT urogram.
B. urine cytology.
C. VCUG.
D. MRI scan with gadolinium.
E. cystoscopy.

124. A 35-year-old woman with diabetes has asymptomatic bacteriuria on a routine urine analysis. The next step is:

A. antibiotics.
B. antibiotics followed by regular screening urinalyses.
C. imaging of the urinary tract.
D. antibiotics followed by cystoscopy.
E. no treatment.

125. A contraindication to cytoreductive nephrectomy prior to systemic therapy in an asymptomatic patient with metastatic RCC is:

A. brain metastasis.
B. vena caval thrombus.
C. involvement of the contralateral adrenal gland.
D. sarcomatoid cell histology.
E. pulmonary metastases.

126. Twenty-four hours after a newborn circumcision, a circumferential skin separation with a 1.5 cm defect is noted. The best management is:

A. observation with local wound care.
B. immediate repair.
C. delayed repair.
D. split thickness skin graft.
E. full thickness skin graft.

127. A 19-year-old man sustained a gunshot wound to the abdomen. Preoperative imaging was not performed. During emergent exploratory laparotomy, a non-expanding, non-pulsatile, left retroperitoneal hematoma is encountered. The next step is:

A. observation.
B. intraoperative sonography.
C. one shot IVP.
D. renal arteriography.
E. left renal exploration.

128. An otherwise healthy 65-year-old man elects active surveillance for T1c, PSA 8.2 ng/dl, Gleason score 6 (1 of 12 cores positive) prostate cancer. His DRE remains normal and has subsequent serial PSA values of 7.1, 9.2, and 7.9 ng/dl at 6, 12, and 18 months respectively. The next step is:

A. endorectal MRI scan.
B. TRUS and prostate biopsy.
C. bone scan.
D. ProstaScint^{TM} scan.
E. definitive local therapy.

129. A four-week-old boy has a febrile UTI. Renal ultrasound shows right hydroureteronephrosis with the distal ureter measuring 2.0 cm in diameter and a normal left kidney. VCUG is normal and a MAG-3 scan shows 80% function on the left and 20% on the right. T ½ on the right is > 30 minutes. The next step is antibiotics and:

A. ultrasound and MAG-3 scan in three months.
B. percutaneous nephrostomy.
C. distal cutaneous ureterostomy.
D. primary ureteral reimplant with tapering.
E. nephrectomy.

130. A 24-year-old man on CIC for a neurogenic bladder is unable to catheterize. Retrograde urethrogram reveals a 2 cm proximal bulbar urethral stricture. The next step is:

A. direct vision internal urethrotomy and resume CIC.
B. suprapubic tube placement.
C. excision and primary anastomosis.
D. bulbar urethroplasty with graft.
E. bulbar urethroplasty with flap.

131. A 52-year-old man undergoes right partial nephrectomy and regional lymphadenectomy for a large upper pole tumor in a solitary kidney. A drain is placed in the renal fossa. The drain output increases precipitously when the patient begins a regular diet. The drain output is a milky white fluid. The test which will confirm the diagnosis is:

A. drain fluid amylase and lipase level.
B. drain fluid fat and total protein level.
C. drain fluid creatinine level.
D. activated charcoal test.
E. abdominal CT scan with oral and I.V. contrast.

132. The appropriate maintenance I.V. fluid for a 14 kg child is:

A. 25 ml/hr of 1/2 NS.
B. 50 ml/hr of 1/2 NS.
C. 50 ml/hr of Lactated Ringers Solution.
D. 75 ml/hr of 1/4 NS.
E. 75 ml/hr of 1/2 NS.

133. A 28-year-old man sustains a straddle injury with bulbar urethral disruption. A suprapubic tube is placed for three months. Cystoscopy and retrograde urethrogram reveal a 1 cm mid bulbar urethral stricture with a 4 Fr lumen. The next step is:

A. dilation.
B. direct visual internal urethrotomy with mitomycin injection.
C. laser urethrotomy.
D. excision and primary anastomosis.
E. urethroplasty with graft.

134. A 57-year-old man has a 2 cm cT2 urothelial carcinoma of the bladder. He opts for chemoradiation. The most effective concurrent chemotherapeutic agent is:

A. methotrexate.
B. vinblastine.
C. doxorubicin.
D. cisplatin.
E. paclitaxel.

135. A ten-month-old girl undergoes left nephrectomy for Wilms' tumor. The right kidney is normal at the time of surgery. Pathology reveals the presence of perilobar nephrogenic rests. She is at increased risk for:

A. nephrotic syndrome.
B. renal failure.
C. metachronous Wilms' tumor.
D. local recurrence.
E. metastatic disease.

136. A 22-year-old woman with a prior history of right nephrolithiasis and ureteroscopic stone extraction has right flank pain. Serum creatinine is 1.0 mg/dl. A CT urogram demonstrates left hydronephrosis, no calculi and a 6 cm ureteral stricture extending from the UPJ to mid-ureteral region. Diuretic renal scan shows left renal function of 35% and T1/2 of 40 minutes after Lasix administration. The next step is:

A. endopyelotomy.
B. transureteroureterostomy.
C. ureterocalicostomy.
D. appendiceal ureteral substitution.
E. ileal ureter.

137. A 70-year-old asymptomatic woman has bladder cancer surveillance after cystectomy and ileal conduit diversion. Her family physician recently checked a random urine culture which revealed > 100,000 Proteus species. The next step is:

A. observation.
B. repeat urine culture.
C. antibiotic therapy.
D. loopogram.
E. non-contrast CT scan.

138. An 11-year-old boy is shot by a .22 caliber rifle and suffers a penetrating injury to the left renal cortex. The injury did not require surgery. Six months later, he develops headaches and is found to be severely hypertensive. Both kidneys measure 10 cm on ultrasound. Renal nuclear scan shows equal function of both kidneys with no photopenic areas. The most likely cause of his hypertension is:

A. arteriovenous fistula.
B. global renal scarring.
C. renal infarction.
D. renal vein thrombosis.
E. segmental renal scarring.

139. A 24-year-old man is shot with a high velocity hand gun in the mid-penile shaft. CT scan of the abdomen and pelvis reveals no other injuries. Retrograde urethrogram shows contrast extravasation from a 2 cm segment of the mid-penile urethra. The next step is:

A. cystoscopy and primary realignment.
B. suprapubic tube placement.
C. debridement and primary closure.
D. debridement and urethroplasty with graft.
E. debridement and urethroplasty with flap.

140. A 52-year-old woman undergoes radical cystectomy with orthotopic urinary diversion. A maneuver to prevent hypercontinence (retention) is:

A. nerve-sparing techniques.
B. the use of > 60 cm of intestine for the reservoir.
C. omental packing anterior to the reservoir.
D. suspension of the pouch to the back of the rectus muscle.
E. suspension of the vagina to the endopelvic fascia.

141. A five-year-old boy who had PUV fulgurated as a newborn is referred because of daytime urinary incontinence and nocturnal enuresis. An ultrasound shows stable bilateral hydronephrosis and VCUG shows a trabeculated bladder, no VUR and no residual valve tissue. Serum creatinine is normal. The next step is:

A. 24-hour urine volume and urodynamics.
B. diuretic renography.
C. antegrade pressure perfusion study.
D. antimuscarinics.
E. cystoscopy.

142. A 32-year-old man with congenital bilateral absence of the vas deferens (CBAVD) desires a biological child. Testing for the cystic fibrosis transmembrane conductance regulator (CFTR) gene is negative. The next step is:

A. test the man's parents for the CFTR gene.
B. proceed with testicular sperm extraction and ICSI.
C. CFTR testing of his female partner.
D. proceed with testicular sperm extraction and ICSI and do pre-implantation genetic diagnosis.
E. CFTR testing of the man's sperm.

143. A 77-year-old man with hypertension, coronary artery disease, and a creatinine of 1.3 mg/dl has gross hematuria. Cystoscopy reveals a normal bladder, and bilateral retrogrades show a small right distal ureteral filling defect. On ureteroscopy, there is a 5 mm solitary papillary tumor and biopsy demonstrates a low grade urothelial carcinoma. The next step is:

A. intravesical BCG with ureteral stent in place.
B. ureteroscopic laser ablation of tumor.
C. segmental resection and ureteroureterostomy.
D. distal ureterectomy with reimplant.
E. laparoscopic nephroureterectomy.

144. A one-month-old boy undergoes left radical orchiectomy for a yolk sac tumor. Chest and abdominal CT scans are normal. Preoperative AFP is 2600 ng/dl, and postoperative levels at one and two months are 330 and 90 ng/dl. The next step is:

A. repeat AFP in one month.
B. ultrasound of right testis.
C. bone scan.
D. RPLND.
E. multiagent chemotherapy.

145. The most effective medication class for the relief of pain associated with acute renal colic is:

A. alpha-blockers.
B. calcium channel blockers.
C. NSAIDS.
D. narcotics.
E. corticosteroids.

146. A 56-year-old woman develops a 3.0 cm benign ureteral stricture at the left ureteroileal anastomosis six months after a radical cystectomy and ileal neobladder. Left renal function is 25%. The next step is:

A. endoscopic balloon dilation.
B. endoscopic laser incision.
C. metallic stent placement.
D. open surgical repair.
E. nephrectomy.

147. The most common long-term outcome for a renal arteriovenous fistula occurring after needle biopsy of the kidney is:

A. hematuria.
B. embolic events.
C. diastolic hypertension.
D. high output cardiac failure.
E. spontaneous closure.

148. A 55-year-old man develops anterior thigh numbness following a ureteral reimplant and psoas hitch for a distal ureteral stricture. The nerve most likely injured is the:

A. lateral femoral cutaneous nerve.
B. ilioinguinal nerve.
C. genital branch of the genitofemoral nerve.
D. femoral branch of the genitofemoral nerve.
E. obturator.

149. A 52-year-old woman is admitted to the hospital with acute flank pain. She is hemodynamically stable. A non-contrast CT scan demonstrates an 8 cm lower pole renal mass measuring -20 Hounsfield units (HU) and evidence of perinephric bleeding. Serum creatinine is 1.6 mg/dl. Hematocrit is 25%. The next step is:

A. transfuse two units PRBC and bedrest.
B. selective angiographic embolization.
C. percutaneous thermal ablation.
D. partial nephrectomy.
E. radical nephrectomy.

150. The spread of urinary extravasation secondary to urethral injury below the urogenital diaphragm, when associated with a tear in Buck's fascia, is limited by the following fascial layers:

A. Denonvilliers' and Colles'.
B. Colles' and Scarpa's.
C. Scarpa's and Denonvilliers'.
D. dartos and Colles'.
E. dartos and Denonvilliers'.

Question #1 **ANSWER=B**

Emission is defined as the deposition of seminal fluid into the posterior urethra by the vasa deferentia and the seminal vesicles. Ejaculation is the forceful expulsion of seminal fluid out the urethral meatus by contraction of the bulbospongiosus and ischiocavernosus muscles. Since the vasa and the seminal vesicles are innervated primarily by the sympathetic nervous system, emission is under control of the sympathetic nervous system. Alpha-adrenergic nerve stimulation causes not only contraction of the seminal vesicles and vasa deferentia but also closure of the bladder neck. Ejaculation is the result of somatic nerve stimulation of the periurethral striated musculature. The parasympathetic nervous system is not directly involved with either emission or ejaculation.

Turek PJ: Male reproductive physiology, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 20, p 610.

Question #2 **ANSWER=A**

The urine usually becomes sterile within a few hours of starting antibiotics even though fever, chills, and flank pain may continue for several days. A delay in clearance of bacteria may occur with obstruction, stone disease, anatomic abnormalities, or impaired renal function. Symptoms of pyelonephritis continuing for 72 hours after initiation of culture appropriate antibiotics should result in the physician considering the need for imaging studies and repeat cultures to rule-out anatomic abnormalities or the emergence of antibiotic resistant bacteria.

Schaeffer AJ, Schaeffer EM: Infections of the urinary tract, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 10, pp 298-299.

Question #3 **ANSWER=B**

In patients with a history of cancer found to have a > 2 cm adrenal mass on a CT scan, approximately 50% of the lesions will be due to a metastasis from the primary tumor. Through the use of CT and MRI manipulations, the indeterminate adrenal mass (classified as a mass 2-5 cm in size) can usually be accurately characterized without biopsy. Benign adrenal tumors, such as a myelolipoma or lipid rich adenoma will usually have non-contrast CT Hounsfield units of < 10. In an adrenal lesion with a CT Hounsfield value of > 10, differentiation of lipid poor adenomas from malignant lesions will require a CT study with contrast and washout, as well as chemical shift MRI scans for differentiation of a benign from a malignant mass. The common features of lipid poor benign adenoma are > 60% washout on CT scan with I.V. contrast while a malignant lesion will usually have a < 60% washout on CT scan. MRI findings consistent with a lipid poor benign adenoma is an adrenal to spleen ratio (ASR) of < 70% and signal loss of > 20% on out of phase imaging. Malignant lesions will display an ASR of > 70% and signal loss of < 20% on out of phase imaging.

Sahdev A, Reznek RH: The indeterminate adrenal mass in patients with cancer. CANCER IMAGING 2007;1:7.

Question #4 **ANSWER=C**

Up to 10% of patients with hypertension may have an element of renal vascular disease as the etiology of their rise in blood pressure. In patients with bilateral renal artery disease, hypertension is largely a volume-dependent phenomenon with excess fluid volume protecting renal function. When diuretics are given to these patients, volume depletion occurs, with renal perfusion subsequently becoming angiotensin-dependent. The combination of diuretics and ACE inhibitors in a patient with bilateral renal artery stenosis will therefore result in the onset of renal insufficiency. Based on this knowledge, the use of the combination of ACE inhibitors with diuretics may be used as a provocative test to identify patients with bilateral ischemic (renal vascular) nephropathy. In essence, a finding of an elevation in serum creatinine within two to four weeks of starting the combination of a diuretic and an ACE inhibitor is highly suggestive of the presence of bilateral renal artery stenosis. Screening for renal artery stenosis in this clinical scenario is mandatory.

Captopril enhanced testing is less accurate in the setting of renal insufficiency and is not the test of choice in patients associated with an elevation in serum creatinine. Renin-based testing is mainly utilized to determine the possible presence of renovascular-induced hypertension, and is not indicated once bilateral ischemic nephropathy has been suspected to be present by a provocative test using a diuretic and an ACE inhibitor.

The key evaluation in this patient is the anatomical assessment of the renal arteries to determine the possibility for vascular intervention. Imaging studies used to diagnose renal artery stenosis include ultrasound, contrast-enhanced CT angiography, and contrast-enhanced or nonenhanced magnetic resonance (MR) angiography. Although ultrasound is an effective screening tool, visualization of the entire renal artery to assess for interventional repair can be problematic. Contrast-enhanced CT and MR angiography can provide exquisite details of the renal arterial anatomy, and are highly accurate for determining both the diagnosis and extent of renal artery stenosis. However, the use of iodinated contrast for CT or the gadolinium-based contrast for MR angiography may be problematic for patients with renal dysfunction, eGFR < 30 ml/min/BSA. In these patients, the iodinated CT contrast may potentially cause further kidney injury, and the use of gadolinium-based contrast can lead to a condition called nephrogenic systemic fibrosis (fibrosis of the skin, joints, and internal organs) that will lead to significant morbidity or death. The preferred test of choice in a patient with an eGFR of < 30 ml/min/BSA under consideration for surgical intervention is the use of nonenhanced MR angiography.

Fergany A, Novick AC: Renovascular hypertension and ischemic nephropathy, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 39, pp 1062-1063.

Question #5 **ANSWER=E**

The patient has a 5 cm hematocele following blunt scrotal trauma with an indeterminate ultrasound examination. Significant hematoceles (5 cm or greater) should be explored, regardless of imaging studies, as up to 80% will be associated with a testicular rupture. The increased area of echogenicity does not infer tumor, and thus, tumor markers are not indicated. MRI will not add useful information.

Morey AF, Dugi DD III: Genital and lower urinary tract trauma, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 88, pp 2510-2512.

Question #6 **ANSWER=E**

This patient has vaginal vault prolapse. The image from the videourodynamics study does not demonstrate a cystocele. The majority of physicians would recommend that this patient should undergo repair of the vault prolapse with a concurrent anti-incontinence procedure. The concurrent anti-incontinence procedure is performed due to the increased risk of de novo stress incontinence following vault suspension. In the context of a robotic sacrocolpopexy, a midurethral sling would be the most appropriate approach. Urodynamics, with or without prolapse reduction, are not predictive of which patients will develop de novo SUI following vault suspension. While acceptable to proceed with robotic sacrocolpopexy and no sling, the patient should be informed of the risk of postoperative stress incontinence. Some patients may prefer this approach due to the inherent risks of sling procedure, however rare they may be.

Winters JC, Togami JM, Chermansky CJ: Vaginal and abdominal reconstructive surgery for pelvic organ prolapse, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 72, p 2090.

Question #7 **ANSWER=C**

In pregnancy, it has been proposed that the increase in cardiac output leads to increase in glomerular filtration rate (GFR) and renal plasma flow. GFR increases between 30-50% as full term approaches. This increase in GFR leads to a decrease in the serum BUN and creatinine. Therefore, the normal values for BUN and creatinine are lower in pregnant women than they are in non-pregnant women.

Schaeffer AJ, Schaeffer EM: Infections of the urinary tract, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 10, p 316.

Question #8 **ANSWER=D**

Proteinuria of 1+ or greater on repetitive dipstick urinalyses should prompt a 24-hour collection to quantitate the degree of proteinuria. In the absence of significant bleeding, > 1 g/24 hour should then prompt a more extensive evaluation for renal parenchymal disease and possible nephrology referral. This patient in fact does not meet criteria of microhematuria because the number of RBCs/hpf is < 3 thus further hematuria evaluation is not warranted. Mild proteinuria would be unlikely to affect serum albumin levels.

Davis R, Jones JS, Barocas DA, et al: Diagnosis, evaluation and follow-up of asymptomatic microhematuria (AMH) in adults: AUA GUIDELINE. American Urological Association Education and Research, Inc, 2012. http://www.auanet.org/education/asymptomatic-microhematuria.cfm

Question #9 **ANSWER=D**

The overall prevalence of RCC in patients with ESRD is 1%. This risk is increased three-four fold in individuals with acquired renal cystic disease of dialysis (ARCD). The onset of ARCD is directly related to the severity of azotemia and the length of time the individual has been on dialysis. RCC in patients with ESRD generally occurs within ten years of the initiation of dialysis. They are multicentric, bilateral, less aggressive than sporadic RCC, and have a male predominance. Both hemodialysis and peritoneal dialysis have been associated with an equivalent incidence of ARCD, and there is no evidence that conversion from one form of dialysis to another influences this disease. For this reason, periodic ultrasound is recommended every six months for patients on chronic dialysis for > 3 years. In this patient population it is appropriate to consider CT, MRI scan, or proceed directly to surgical intervention when the ultrasound suggests a complex cyst or a solid mass > 3 cm.

Pope JC IV: Renal dysgenesis and cystic disease of the kidney, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 118, pp 3192-3194.

Question #10 **ANSWER=E**

TRUS and biopsy is one of the most common urologic procedures. Antibiotic prophylaxis is well-established as reducing infection after the procedure. The AUA Best Practice Statement on Antimicrobial Prophylaxis states that the only oral agent approved for TRUS and biopsy prophylaxis is an oral fluoroquinolone. Alternatives are an I.V. 1st, 2nd or 3rd generation cephalosporin or aminoglycoside plus metronidazole or clindamycin. Septra and oral cefuroxime are incorrect because of the oral route of administration. Levofloxacin is incorrect since the patient had a severe ciprofloxacin allergy, so other fluoroquinolones should be avoided unless tolerance testing is performed. Gentamicin without metronidazole or clindamycin is also incorrect.

Wolf JS Jr, Bennett CJ, Dmochowski RR, et al: Best practice policy statement on urological surgery antimicrobial prophylaxis. UROLOGICAL SURGERY ANTIMICROBIAL PROPHYLAXIS BEST PRACTICE STATEMENT. American Urological Association Education and Research, Inc, 2014. http://www.auanet.org/education/guidelines/antimicrobial-prophylaxis.cfm

Question #11 **ANSWER=B**

Aminoglycosides remain a mainstay of treatment for life-threatening gram negative infections. The risk of nephrotoxicity is increased in the elderly, diabetics, and in patients with pre-existing renal insufficiency. However, the acuity of this patient's pyelonephritis makes those considerations secondary. Cephalosporins and beta-lactam antibiotics (imipenem) are generally contraindicated with a history of anaphylactic reaction to penicillin, even though the absolute risk of severe reaction appears to be quite low. There is no evidence that pre-treatment with diphenhydramine and hydrocortisone would further reduce this risk. Ciprofloxacin is not an ideal choice because the organism exhibits only intermediate sensitivity and antibiotic concentrations in the urine are lower in a kidney with markedly diminished function. Nitrofurantoin is only active in the urine and is not appropriate for the treatment of tissue infections.

Sullivan JW, Bueschen AJ, Schlegel JU: Nitrofurantoin, sulfamethizole and cephalexin urinary concentration in unequally functioning pyelonephritic kidneys. J UROL 1975;114):343-347.

Mörike K, Schwab M, Klotz U: Use of aminoglycosides in elderly patients. Pharmacokinetic and clinical considerations. DRUGS AGING 1997;10:259-277.

Apter AJ, Kinman JL, Bilker WB, et al: Is there cross-reactivity between penicillins and cephalosporins? AM J MED 2006;119:354.

Schaeffer AJ, Schaeffer EM: Infections of the urinary tract, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 10, pp 276-278.

Question #12 **ANSWER=D**

This patient has T2N2M0S2 NSGCT, also categorized as clinical stage 2B. The standard treatment should be primary chemotherapy. The selection of chemotherapy regimen depends on the International Germ Cell Cancer Collaborative Group Risk Classification for Advanced Germ Cell Tumor (IGCCG) that includes location of primary tumor, metastases and tumor marker levels. This patient is considered intermediate risk based on the post orchiectomy AFP over 1,000 IU/ml, and all intermediate and high risk patients should receive four cycles of BEP.

Stephenson AJ, Gilligan TD: Neoplasms of the testis, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 31, p 855.

Question #13 **ANSWER=B**

A particularly distressing postoperative complication following radical nephrectomy is the development of a pancreatic fistula because of an unrecognized intraoperative injury to the pancreas. This is usually manifested in the immediate postoperative period with signs and symptoms of acute pancreatitis and drainage of alkaline fluid from the incision. A CT scan of the abdomen demonstrates a fluid collection in the retroperitoneum. Fluid draining from the incision should be analyzed for pH and the presence of amylase. Treatment involves percutaneous drainage of the pseudocyst or abscess. The majority of fistulae close spontaneously with the establishment of adequate drainage. Because the healing of a pancreatic fistula is usually a slow process associated with significant nutritional loss, the patient is also supported with hyperalimentation. Surgical treatment with resection of the distal pancreas is necessary if nonoperative management fails. Open surgical drainage or ligation of the fistula would not be indicated and/or considered the treatment of choice. A low triglyceride diet would be indicated for a lymphatic leak.

Kenney PA, Wotkowicz C, Libertino JA: Contemporary open surgery of the kidney, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 54, p 1623.

Question #14 **ANSWER=A**

The sodium nitroprusside spot test will turn urine purple in the presence of cystine. This test is used for screening purposes to identify patients with cystine stone disease who are undergoing a 24 hour urine collection for evaluation. Phenolphthalein is a urinary marker for laxative abuse and may be helpful in the diagnosis of ammonium acid urate stones. A thiazide challenge may be helpful in the diagnosis of hyperparathyroidism. Serum pH and serum chloride may be helpful in the diagnosis of RTA type I.

Ferrandino MN, Pietrow PK, Preminger GM: Evaluation and medical management of urinary lithiasis, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 46, p 1300.

Question #15 **ANSWER=C**

This patient most likely has T3 or T4 disease based on this CT scan. For T2 to T4 disease, large prospective randomized trials and meta-analyses have demonstrated that outcomes are better in patients who receive neoadjuvant chemotherapy prior to surgery rather than surgery alone. There is no evidence that MRI is significantly better at determining whether there is organ confined disease than a CT scan. In addition, with a CT scan that is fairly unequivocal there is no benefit from additional local imaging.

Grossman HB, Natale RB, Tangen CM, et al: Neoadjuvant chemotherapy plus cystectomy compared with cystectomy alone for locally advanced bladder cancer. NEJM 2003;349:859-866.

Lerner SP, Sternberg CN: Management of metastatic and invasive bladder cancer, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 82, pp 2361-2363.

Question #16 **ANSWER=D**

Contrast media accounts for 10% of all causes of hospital-acquired acute renal injury. Three key risk factors that may provoke this injury are: pre-existing renal dysfunction (serum creatinine > 1.6 mg/dl or eGFR < 60 ml/min/BSA), pre-existing diabetes, and reduced intravascular blood volume. Contrast agents evoke renal injury by two mechanisms: first, by acting as an intrarenal vasoconstricting agent resulting in decreased intrarenal blood flow and hypoxemia; second, by a direct toxic effect of the contrast agent on tubular epithelial cells. The combination of renal medullary ischemia and direct cellular toxicity leads to increased renal epithelial cell apoptosis and acute tubular necrosis. The osmolality of the contrast agent once believed to be of paramount importance in the induction of contrast-induced nephropathy has been shown to play a minimal role in contrast-induced nephropathy. Indeed, recent studies have found that viscosity of the contrast agent is more important than osmolality. These findings resulted in the recommendation that periprocedural hydration along with limiting the amount of contrast agent are the key to prevent contrast-induced renal failure. A recent meta-analysis to evaluate the various interventions employed for prevention of this complication, assessing sodium bicarbonate solutions, adenosine antagonists (theophylline), N-acetylcysteine and ascorbic acid noted mixed results with no definitive proof that these agents could prevent the complication. Randomized control studies have, however, shown that in patients with a creatinine of > 3.5 mg/dl prophylactic hemodialysis prior to and following the study can reduce the risk of this complication.

Fulgham PF, Bishoff JT: Urinary tract imaging: Basic principles, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 4, pp 101-103.

Question #17 **ANSWER=D**

The retrograde and antegrade studies show a complete obstruction of the left distal ureter at the level of the uterine vessels. Most likely, the ureter was divided during clamping of the left uterine vascular pedicle or a thermal injury was sustained. The high grade obstruction (no contrast goes through the obstruction with both retro and antegrade injections) demonstrated makes the success of an endoscopic approach unlikely. Ureteroureterostomy is not a good option in the distal ureter, and should be reserved for short mid- to upper ureteral defects. The best repair for this patient is a ureteral reimplant with a psoas hitch. A Boari flap is not necessary in this patient and is reserved for lengthy distal ureteral defects up to 15 cm long.

Nakada SY, Hsu THS: Management of upper urinary tract obstruction, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 41, pp 1156-1157.

Question #18 **ANSWER=A**

According to the EARLY DETECTION OF PROSTATE CANCER: AUA GUIDELINES, guideline statement number 1 states that the panel recommends against screening in all men under age 40. In this age group, there is a low prevalence of clinically detectable prostate cancer. There is no evidence to demonstrate a benefit of screening, and there are likely the same harms of screening as in other age groups. This recommendation holds even for African-Americans or those with a family history of prostate cancer. The panel does state that to reduce the harms of screening, a routine screening interval of two years (biennial screening) or more may be preferred over annual screening in those men who have participated in shared decision-making and decided on screening (Guideline statement 4). As compared to annual screening, it is expected that screening intervals of two years preserve the majority of the benefits and reduce over-diagnosis and false positives. However, in this patient population, no screening is recommended. Some authors have put forth the strategy of initial screening and then follow-up in five years. Although such strategies may help reduce over-diagnoses and better select men who are likely to be true positives, this approach has not been well-validated and accepted by the AUA Guidelines.

Carter BH, Albertsen PC, Barry MJ, et al: Early detection of prostate cancer: AUA GUIDELINE. American Urological Association Education and Research, Inc, 2013. http://www.auanet.org/education/guidelines/prostate-cancer-detection.cfm

Question #19 **ANSWER=E**

A rectourethral fistula is relatively low in the pelvis and is best managed by the posterior-transanal repair (York-Mason) approach, in which the posterior anal sphincter is split to provide good exposure of the anterior rectal wall. The fistula site can then be excised with a multilayer closure. A transabdominal repair is difficult in this setting due the location deep within the pelvis, and this type of fistula is better repaired through the posterior-transanal approach. A urinary diversion may need to be considered, but only if attempts for primary repair have failed. This patient's PSA is < 0.5 and he is likely to stay cancer free, so salvage prostatectomy or pelvic exoneration should not be considered.

Rovner ES: Urinary tract fistulae, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 77, p 2257.

Question #20 **ANSWER=E**

For late-onset urinary retention found in patients with an AUS in situ, endoscopic and urodynamic evaluation is required to identify urethral erosion, proximal obstruction, or the development of detrusor failure. In this case, obstructive voiding symptoms, an abnormal physical examination with a normal endoscopic and complete urodynamic evaluation are highly consistent with periprosthetic infection without urethral erosion, secondary pericuff edema resulting in the obstructive symptoms. Late infections of AUS are usually due to gram positive cocci (S. aureus or S. epidermidis). Treatment with ciprofloxacin will not clear the infection due to bacterial adherence to the biofilm of the AUS. In addition, in this patient with diabetes, the local infection could quickly escalate resulting in widespread cellulitis and Fournier's gangrene. Removal of the AUS with appropriate cultures and, if indicated, salvage AUS replacement should be considered. Cuff deactivation will not prevent retention unless the patient is incapable of using the device. CIC will not treat the underlying problem, which remains undiagnosed. A pelvic CT scan may define inflammation around the device; however, a negative CT scan does not indicate absence of infection and, therefore, cannot be relied upon. Cuff size is not likely to influence voiding status except in the immediate postoperative period when, if retention occurs, cuff upsizing may be necessary. In this patient with a long history of an AUS, sub cuff atrophy is more likely.

Wessells H, Peterson AC: Surgical procedures for sphincteric incontinence in the male: The artificial genitourinary sphincter and perineal sling procedures, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 79, p 2302.

Question #21 **ANSWER=D**

Malignant GCT accumulates fluorodeoxyglucose (FDG), and several studies have investigated FDG-labeled positron emission tomography (FDG-PET) in the staging of GCT at diagnosis and assessing response after chemotherapy. The high sensitivity is likely due to the high turnover and increased metabolic rate of GCTs.

Due to limited sensitivity at the time of initial diagnosis, there is currently no role for FDG-PET in the routine evaluation of NSGCT and seminoma at the time of diagnosis. However, there may be a role for detection of recurrent disease and the assessment of residual masses after chemotherapy. For example, PET does appear to be a useful tool in seminoma patients when evaluating post-chemotherapy residual masses. In a series of seminoma patients who were evaluated post-chemotherapy for residual retroperitoneal masses, PET was accurate in 14/14 patients with tumors > 3 cm and in 22/23 patients with lesions < 3 cm. Overall, the sensitivity and specificity was 89% and 100%, respectively.

The utility of FDG-PET in the prediction of retroperitoneal histology in NSGCT (particularly in the post-chemotherapy setting) is limited by the fact that teratoma is not FDG avid (likely due to the relatively low metabolic rate of teratomas). This likely accounts for the high false negative rates observed.

Similarly, the utility of PET scanning in the immediate post-chemotherapy period appears to be limited. This is likely due to decreased metabolism and increased macrophage activity at that time, which compromises the accuracy of PET scanning. It is recommended that PET/CT be delayed for four to 12 weeks following completion of chemotherapy. There is no difference between abdominal and thoracic imaging using a PET scan in this setting.

Stephenson AJ, Gilligan TD: Neoplasms of the testis, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 31, pp 847; 858.

Fulgham PF, Bishoff JT: Urinary tract imaging: Basic principles, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 4, pp 127-128.

De Giorgi U, Pupi A, Fiorentini G, et al: FDG-PET in the management of germ cell tumor. ANN ONCOL 2005;16:90-94.

Question #22 **ANSWER=D**

Prosthetic infections occur in 1-3% of patients following inflatable penile implants with antibiotic coating, and usually occur within the first three months of implantation. The most common organism is staphylococcus, and infection occurs at the time of implantation. Pain without WBC count elevation or increase in erythrocyte sedimentation rate is common. The increasing nature of the pain is not consistent with post-operative pain or pain from a traumatic event. Prosthetic erosion would be apparent on physical exam. Corporal fibrosis is an uncommon late complication of penile prosthesis. An oversized cylinder is associated with buckling and pain with prosthetic inflation.

Montague DK: Prosthetic surgery for erectile dysfunction, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 27, pp 785-787.

Question #23 **ANSWER=B**

Observation places the patient at risk of recurrent urosepsis. This can be prevented by continued nitrofurantoin prophylaxis which will prevent recurrent cystitis and symptomatic infection. I.V. tobramycin achieves poor penetration of the prostate and is unlikely to eradicate infection. Tobramycin instillations would be effective but are more invasive than oral prophylaxis. TURP would be inappropriate in this patient.

Hua VN, Schaeffer AJ: Acute and chronic prostatitis. MED CLIN N AM 2004;88:483-494.

Nickel JC: Prostatitis and related conditions, orchitis, and epididymitis, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 11, pp 342-344.

Question #24 **ANSWER=D**

There is little long-term data on the cancer control of ablative procedures. Additionally, there is a well-recognized slow natural history of RCC in terms of growth rate. Thus, if imaging findings reveal increasing size, new nodularity, satellite lesions or failure of the treated lesion to regress over time even in the absence of enhancement, then the next step should be lesion biopsy. These findings would be concerning enough to warrant an intervention rather than routine imaging in 6-12 months. There is no data to support the routine use of PET scanning in the evaluation or follow-up of patients with small renal neoplasms, although ongoing studies with newer imaging agents are underway. Repeat ablation with no biopsy is also not indicated.

Donat SM, Chang SS, Bishoff JT, et al: Follow-up for clinically localized renal neoplasms: AUA GUIDELINE. American Urological Association Education and Research, Inc, 2013. http://www.auanet.org/education/guidelines/renal-cancer-follow-up.cfm

Question #25 **ANSWER=D**

When faced with a patient with a persistent urinary fistula, the acronym FETID will aid the physician in determining its etiology and hence management plans: F- Foreign Body, E- Epithelization of the fistula tract, T- Tumor or chronic trauma causing persistence, I-Infection or chronic inflammation arising from inflammatory bowel disease, radiation therapy, etc. D-Distal obstruction. In this young patient with a history of persistent fistula, following closure of a bladder rupture after a pelvic fracture, persistent drainage from a suprapubic tube site is most likely from either a foreign body within the bladder, i.e., bony spicule or bladder calculi formed as a nidus from the prior indwelling suprapubic tube or bladder outlet obstruction arising from either a bladder neck contracture or urethral stricture. The single best diagnostic study is cystourethroscopy. Pressure flow urodynamic studies could demonstrate findings consistent with high pressure voiding and outlet obstruction. But the source of the obstruction, which is likely a urethral stricture or a bladder neck contracture, would not be able to be determined by this test and this test does not rule out the possibility of a foreign body within the bladder. A CT scan may allow one to visualize either a foreign body or bladder calculi to be present, but would not be able to assess the urinary outlet. Similarly, a fistulogram or pelvic MRI scan are unlikely to yield adequate diagnostic information in this situation to result in definitive operative plans.

Rovner ES: Urinary tract fistulae, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 77, pp 2260-2261.

Question #26 **ANSWER=E**

The patient has peritoneal signs, which dictate exploration and intestinal diversion. If the patient did not have peritoneal signs, then repositioning the tube in the colonic lumen and placing a ureteral stent would be an optimal approach to prevent a nephrocolonic fistula.

Matlaga BR, Lingeman JE: Surgical management of upper urinary tract calculi, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 48, p 1405.

Question #27 **ANSWER=C**

Alvimopan, a peripherally acting μ-opioid receptor antagonist, is indicated to accelerate upper and lower GI recovery following surgeries that include a bowel resection. In October 2013, the U.S. Food and Drug Administration (FDA) authorized an expanded indication on the basis of a Phase 4 randomized multicenter clinical trial. In this trial, patients receiving alvimopan experienced more rapid bowel recovery and had a shorter hospital stay compared with those who received placebo. There were no differences with regard to early (< 7 day) post-op ileus (POI) or 30-day all cause readmission rates between the two groups. Alvimopan has been associated with the potential for increased cardiac toxicity in patients with chronic narcotic use, and is therefore contraindicated in this patient population. In the aforementioned trial, such patients were excluded, and there were no differences in cardiac adverse events between the alvimopan and placebo groups. In a preplanned economic analysis of this study, alvimopan use decreased hospitalization costs by reducing health care services associated with POI and decreasing hospital length of stay; total costs were $2,640 lower per patient for alvimopan compared with placebo. The study did not address opiate consumption, but it is unlikely that a μ-opioid receptor antagonist should affect opioid intake. Instead, it would be expected to affect the peripheral effects of opioids on bowel motility.

Lee CT, Chang SS, Kamat AM, et al: Alvimopan accelerates gastrointestinal recovery after radical cystectomy: A multicenter randomized placebo-controlled trial. EUR UROL 2014;66:265-272.

Kauf TL, Svatek RS, Amiel G, et al: Alvimopan, a peripherally acting μ-opioid receptor antagonist, is associated with reduced costs after radical cystectomy: Economic analysis of a phase 4 randomized, controlled trial. J UROL 2014;191:1721-1727.

Question #28 **ANSWER=C**

There is no consensus as to whether transplanted ureters should be reimplanted into a recipient's native bladder with an antirefluxing technique. However, there is certainly a concern that reflux of infected urine and/or reflux associated with elevated detrusor pressures can be damaging to the transplanted kidney. This patient does not have any lower urinary tract symptoms and there is no evidence of elevated storage pressures on her urodynamic study (i.e., no detrusor overactivity and normal compliance); thus, there is no reason to initiate therapy for OAB with either oxybutynin or mirabegron. She does abdominally recruit with some degree of Valsalva voiding at the end of her micturition, but that is unlikely related to bladder infections or pyelonephritis because she empties effectively. Decreasing her immunosuppression would not address the issue of her infections, would not minimize risk of future episodes of pyelonephritis, and would only place the kidney at possible risk for rejection. Low dose suppressive antibiotic therapy would be the appropriate next step to minimize future episodes of pyelonephritis. If this is not effective then revision of her ureteral reimplant with a non-refluxing neocystostomy should be considered.

Barry JM, Conlin MJ: Renal transplantation, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 44, p 1251.

Veale JL, Gritsch HA: Complications of renal transplantation, Taneja SS (ed): COMPLICATIONS OF UROLOGIC SURGERY, ed 4. Philadelphia, Elsevier Saunders, 2010, chap 37, pp 436-437.

Question #29 **ANSWER=D**

The option with the best stone-free rate for larger ureteral stones is ureteroscopy. While SWL is acceptable, the best option is ureteroscopy for stones > 1 cm according to the data extracted in the AUA/EAU Ureteral Stone Guidelines. A stone this large would likely not pass. Percutaneous stone removal would be definitive, but should only be considered when the patient already has a pre-existing nephrostomy tube or has failed a retrograde ureteroscopic approach or SWL.

Preminger GM, Tiselius HG, Assimos DG, et al: Management of ureteral calculi: EAU/AUA NEPHROLITHIASIS PANEL: AUA GUIDELINE. American Urological Association Education and Research, Inc, 2007.http://www.auanet.org/education/guidelines/ureteral-calculi.cfm

Question #30 **ANSWER=D**

Prostatic duct adenocarcinomas arise in the periurethral prostatic ducts, and usually grow as an exophytic lesion in the urethra. They can give rise to either hematuria or obstructive symptoms, and often both are present. These tumors are often underestimated clinically because serum PSA levels and DRE are often normal. Consequently, many ductal adenocarcinomas are at an advanced stage at presentation and have an aggressive course. They are graded as 4+4=8 because of their cribriform morphologic features. These tumors should be treated aggressively and approached surgically. There is no indication that ductal adenocarcinomas are more sensitive to radiation, and similarly, chemotherapy is not indicated in this situation.

Epstein JI: Pathology of prostatic neoplasia, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 96, p 2733.

Question #31 **ANSWER=C**

Arterioureteral fistula (AUF) is a rare but acute condition that predominantly affects women (> 70%) with a wide time range between the initial placement of the ureteral stent to fistulization, ranging from 2 to 25 years. Factors that should raise suspicion of an AUF include history of hematuria in a patient with indwelling ureteral stents especially in patients with a past medical history of prior abdominal or pelvic irradiation, pelvic surgery or aortoiliac or aortofemoral grafts. Although 55% of patients will present with a history of persistent gross hematuria plus or minus shock, 45% of patients present with herald bleeding (gross hematuria occurring from the ureteral orifice during a ureteral stent exchange). When herald bleeding occurs as in the patient in this question, treatment should be pursued to prevent a possible exsanguinating emergent fistula complication. The diagnostic goal in these patients is to identify the specific location of the fistula. In patients with bilateral indwelling stents, the side in which the gross hematuria is found is helpful for locating the side involved but is nonspecific in nature. Computed tomographic angiography will document the location in < 40% of patients. However, it may be useful because it can identify a concurrent periarterial abscess, aneurysmal enteric communication, aneurysmal dilation, significant arterial calcification, and concomitant thrombus. Diagnostic provocative angiography with selective iliac views remains the gold standard and is 90% diagnostic. Provocative angiography will require exchange of the double-J ureteral stent for a straight ureteral catheter. This will allow the interventionalist the ability to manipulate the ureteral stent at time of angiography to induce bleeding and identify the site and location of the fistula. While exchanging the stent, it is imperative not to lose access to the ureter; this procedure is best done in an endovascular suite with an operative team immediately available. It should be noted that a minority of patients, 10% will be empirically treated for an AUF without identification of the exact AUF location. These individuals will have a history of herald hematuria with predisposing factors for AUF and no other identifiable source of urinary bleeding. Prior studies have documented that once the AUF has developed, simple removal of the stent is inadequate for fistula closure. Previously, open repair of the fistula (often with vascular bypass procedure of the affected vessel and percutaneous nephrostomy tube placement) was the standard therapy. However, recent advances in endovascular stents have made this the least morbid procedure and the best initial therapeutic option. It is noteworthy that after placement of an endovascular graft, greater than 60% of the patients are still treated by chronic ureteral stent drainage along with chronic antibiotic prophylaxis, while the remaining 40% are managed by either permeant ipsilateral nephrostomy tube drainage or nephrectomy.

Rovner ES: Urinary tract fistulae, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 77, pp 2259-2260.

Question #32 **ANSWER=D**

Drug-induced renal calculi represent 1-2% of all renal calculi. They include two categories: those resulting from the urinary crystallization of a highly excreted, poorly soluble drug or drug metabolite, and those due to the metabolic effects of a drug. Four drugs that can induce calculi through precipitation of the medication or its metabolite include: 1) Indinavir, a protease inhibitor used to treat HIV infections, 2) Magnesium Trisilicate, an antacid used to treat gastroesophageal reflux, 3) Triamterene, a potassium sparing diuretic used to treat edema and hypertension, 4) Ephedrine used in a variety of nutritional or energy supplements for its stimulant properties, can when used alone or in combination with guaifenesin, the combination used as an expectorant, induce calculi containing either ephedrine, or both ephedrine and guaifenesin. Five commonly used medications may induce physiologic changes that can lead to metabolic abnormalities that facilitate the formation of calculi these include: 1) Loop diuretics (Furosemide, Lasix), it is noteworthy that up to two thirds of low-birth-weight infants who have received furosemide therapy will develop precipitation of calcium crystals, 2) Carbonic anhydrase inhibitors, drugs such as acetazolamide (Diamox), used to treat glaucoma, altitude sickness, and epilepsy, and 3) topiramate (Topamax), an anticonvulsant medication used to treat refractory seizures, can produce severe hypocitraturia and high urinary pH, and will induce calcium phosphate calculi in up to 2% of patients on long-term therapy, 4) Zonisamide (Zonegran), a sulfonamide anticonvulsant will result in the formation of calcium phosphate calculi in 4% of the patients on this mediation, 5) potential laxative abuse should be considered when ammonium acid urate calculi are found in the absence of UTI or bowl disease. Carbamazepine (Tegretol) used to treat seizure disorders, nerve pain and bipolar disorder is not known to be associated with urolithiasis.

Pearle MS, Lotan Y: Urinary lithiasis: Etiology, epidemiology, and pathogenesis, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 45, p 1283.

Question #33 **ANSWER=A**

Every reasonable effort should be made to obtain a negative proximal margin before re-implantation when a frank tumor is encountered at the margin. However, the findings of CIS at the ureteral margin (either at the time of frozen section or on final pathology) is more uncertain. The group at Memorial Sloan Kettering has questioned the value of achieving a negative margin because this did not alter the risk of development of subsequent upper tract tumor and CIS of the ureter is not independently associated with a worse outcome following cystectomy. Cancer recurrence at the anastomosis is rare even with a positive margin showing CIS, but a positive margin is a risk factor for developing a second primary tumor of the ureter or renal pelvis. Schumacher and colleagues demonstrated that upper tract recurrences occur in 3% to 5% of patients, and they are usually at sites distant from the anastomosis. However, they found no correlation between frozen and permanent section findings in their cohort. Accordingly, the data would suggest that patients with CIS at the ureteral margin may have a mildly increased risk of an upper tract recurrence (often remote from the margin, either on the ipsilateral or contralateral side). As a result, such patients (like all patients with invasive bladder cancer) require close follow-up with upper tract surveillance. Although the most commonly performed method of upper tract surveillance is with imaging (e.g., CT urogram), the most sensitive means involves surveillance ureteroscopy, and this can be used in patients with a very high degree of suspicion for upper tract recurrence. The median time to occurrence in one recent series was 53 months. Pre-emptive antegrade brush biopsy is not indicated at this time in the absence of obstruction or other abnormalities in imaging. BCG is also not indicated, as the finding of CIS at the margin only suggests a slightly increased incidence of recurrence, and often this recurrence is at a location remote from the margin site. Similarly, pre-emptive re-implantation or ipsilateral nephroureterectomy are not indicated or warranted as most patients will not have a local recurrence or ipsilateral upper tract recurrence.

Lerner SP, Sternberg CN: Management of metastatic and invasive bladder cancer, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 82, p 2360.

Question #34 **ANSWER=D**

During laparoscopic surgery, electrosurgically induced thermal injury may occur via one of four mechanisms: inappropriate direct activation, coupling to another instrument, capacitive coupling, and insulation failure. Intraoperatively, thermal injuries of the bowel may present as whitish spots on the serosal lining. In severe cases, the muscularis mucosae or the intestinal lumen may be seen. However, in many patients, thermal injury of the bowel is not realized at the time of the procedure. Postoperatively, the patient with unrecognized bowel trauma may not develop fever, nausea, or signs of peritonitis for three to seven days; the full extent of the bowel necrosis may take up to 18 days to fully develop. Therefore, the problem often does not become manifest until the patient has been discharged. Accordingly, bowel injury must be ruled-out for any patient who develops a fever beyond postoperative day one or who complains of increasing abdominal discomfort. Abdominal radiographs are notoriously inaccurate because the carbon dioxide from the laparoscopy may remain as "free air" for more than two weeks after the procedure; however, an ileus pattern is usually present. An abdominal ultrasound will similarly be nonspecific and may detect loops of bowel or free fluid. The more sensitive test is an abdominal CT scan with oral contrast and delayed films. Minor postoperative thermal injuries of the bowel may be managed conservatively, aided by administration of antibiotics and an elemental diet. However, if the patient does not respond rapidly or develops worsening peritonitis, open surgical exploration is mandatory. Thermal injury caused by monopolar cautery often results in tissue damage that extends beyond the visible area of necrosis. With this in mind, the surgeon should perform a bowel resection with a safety margin of 6 cm on either side before completing an end-to-end anastomosis. Thermal injury caused by bipolar electrosurgery is more confined to the visible area of damage; thus, if the injury is small, it can be managed by simple excision of the defect and closure of the bowel wall. Injuries that involve more than half of the circumference of the bowel should be treated by excision of the affected bowel segment and end-to-end anastomosis.

Eichel L, Clayman RV: Fundamentals of laparoscopic and robotic urologic surgery, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 9, pp 242-244.

Question #35 **ANSWER=E**

Decreasing the rate of shock wave administration from 120 to 60 shocks per minute results in improved stone-free rates. A slower treatment rate of proximal ureteral stones reduces the need for additional SWL or more invasive treatments to render patients stone-free without any increase in morbidity and with an acceptable increase in treatment time. The hypothesized mechanism of this effect is due to the formation of cavitation bubble cloud around the stone, which may shield the stone from subsequent shock waves. This effect is most pronounced at higher shock wave frequency.

Matlaga BR, Lingeman JE: Surgical management of upper urinary tract calculi, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 48, p 1398.

Question #36 **ANSWER=A**

Bosniak classifications of renal cysts are:

1) Simple hairline thin cyst wall, Hounsfield units < 10.

2) Simple hairline thin cyst wall, few hairline thin septa within cyst, short, thin areas of calcification maybe present, septa and wall do not enhance, Hounsfield units < 10. The patient described in the question has a Bosniak 2 cyst.

No follow-up evaluation is indicated for a class 1 or 2 Bosniak cyst.

2F) Thickened cyst wall, multiple septa that may be thickened or contain calcium, Hounsfield units of 10-15 no significant enhancement with contrast. Follow-up is indicated due to an increased risk of malignancy (5-10%). These cysts should therefore undergo periodic surveillance with no set time limit; evaluations every 6-12 months have been purposed. Biopsy is not indicated due to poor reliability in sampling areas of concern.

3) Cystic mass with thickened wall, thick irregular septum, cyst wall or septa enhance with contrast, Hounsfield units >15.

4) Cystic mass with thickened wall, thick irregular septum, cyst wall, septa, and areas within cyst, not associated with the wall or septa enhance, Hounsfield units >15.

Both Bosniak 3 and 4 cysts should at a minimum be considered for a biopsy or alternatively surgical excision.

Campbell SC, Lane BR: Malignant renal tumors, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 49, pp 1418-1420.

Question #37 **ANSWER=E**

BPH is a histological diagnosis. This patient has not had a biopsy. Benign prostatic obstruction is a urodynamic diagnosis made on the basis of the relationship between pressure and flow. The poor flow rate in this case may be due to either detrusor underactivity or bladder outlet obstruction and is not diagnostic of either entity. Detrusor overactivity and detrusor underactivity are urodynamic diagnoses that cannot be made in the absence of a urodynamic study. LUTS is a generic term describing lower urinary tract symptoms and does not imply an underlying pathology or pathophysiology.

McVary KT, Roehrborn CG, Avins AL, et al: Management of benign prostatic hyperplasia (BPH): AUA GUIDELINE. American Urological Association Education and Research, Inc, 2010. http://www.auanet.org/education/guidelines/benign-prostatic-hyperplasia.cfm

Question #38 **ANSWER=B**

The patient presented here is Index Patient 2 of the AUA Guidelines and should be considered for sipuleucel-T immunotherapy. This patient is only minimally symptomatic (not requiring narcotics) and thus is a candidate for sipuleucel-T, which has demonstrated a survival advantage in this patient population. Abiraterone acetate is also an option but is not listed here. The other treatment options are not appropriate for Index Patient 2. Cabazitaxel is indicated for patients who have failed prior docetaxel chemotherapy. Radium-223 in general is reserved for patients with symptomatic bone metastases. Mitoxantrone has not been shown to provide a survival advantage and in general has been used for palliative purposes in symptomatic patients.

Cookson MS, Kibel AS, Dahm P, et al: Castration-resistant prostate cancer: AUA GUIDELINE. American Urological Association Education and Research, Inc, 2013. http://www.auanet.org/education/guidelines/castration-resistant-prostate-cancer.cfm

Question #39 **ANSWER=A**

This patient has a persistent mass following hormonal therapy for endometriosis invading the bladder. She had an adequate trial of GnRH agonist therapy. The next step is upper tract imaging; this test should be obtained in all patients with pelvic endometriosis prior to and following hormonal therapy, and again prior to surgical intervention due to the potential for silent upper urinary tract obstruction which can occur in 10-20% of these women. Repeat biopsy of the bladder mass, endoscopically or percutaneously, is unlikely to be helpful as it will show either fibrosis or persistent endometriosis. Partial or radical cystectomy is overly aggressive and certainly not indicated until the upper tracts have been evaluated. An anatomic study with CT urogram will provide more information than nuclear renography and will complete the hematuria workup.

Singh I, Strandhoy JW, Assimos DG: Pathophysiology of urinary tract obstruction, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 40, pp 1115-1116.

Question #40 **ANSWER=B**

Thiazide diuretics will lose their effectiveness in the treatment of hypercalciuria in up to 25% of patients on long-term management. The loss of effectiveness is due to increased serum calcium levels which stimulate the C cells in the thyroid to produce more calcitonin. Increased calcitonin leads to increased urinary calcium excretion. Increased dietary calcium, decreased patient compliance, increased GI absorption or increased PTH could all lead to hypercalciuria, but are not the proposed mechanisms for tachyphylaxis with thiazides.

Ferrandino MN, Pietrow PK, Preminger GM: Evaluation and medical management of urinary lithiasis, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 46, p 1310.

Question #41 **ANSWER=B**

In women with recurrent symptomatic UTI, continuous low-dose antibiotic prophylaxis or if the recurrent UTI can be related to intercourse post-coital antibiotics are indicated. Appropriate antibiotics include: trimethoprim-sulfamethoxazole, nitrofurantoin, and cephalexin. Fluoroquinolones should be reserved for instances of bacterial resistance or allergy. Therapy is usually continued for six months followed by a trial period off prophylaxis. Other strategies such as post-coital voiding, changing to cotton underwear, wiping away from the urethra and avoidance of hot tubs have not been shown to decrease the rate of infections. Cystoscopy is not indicated for recurrent simple cystitis in women.

Schaeffer AJ, Schaeffer EM: Infections of the urinary tract, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 10, p 260.

Question #42 **ANSWER=A**

ANOVA (analysis of variance) is used when comparison is being made between the mean of more than two groups. A t-test is used to make comparison between the mean of two groups. Chi-square test is used to compare differences in proportions. Pearson r test is used to evaluate the strength and direction of an association. Spearman rank order correlation is used to compare ordinal data.

Glaser AN: HIGH YIELD BIOSTATISTICS, ed 3. Philadelphia, Lippincott, Williams, & Wilkins, 2005, p 41. http://www.auanet.org/education/modules/core/topics/bus-comm-research/basic-research-stats/index.cfm#BIOSTATISTICS

Question #43 **ANSWER=C**

It is very unlikely that this patient, who is in complete urinary retention one month after a retropubic mid-urethral sling, will resume normal voiding. If the patient had undergone an autologous sling, it would be appropriate to wait three months before intervening as spontaneous sling loosening may occur with resorption of the sling. In this patient with a synthetic sling, if she desires to void spontaneously, she will need to have the sling loosened or cut. Sling loosening may be attempted within the first week to ten days after surgery, but this must be done surgically by exposing the sling and attempting to loosen it and not by urethral dilation. If loosening is not selected or is ineffective, the sling will need to be cut. Incision of the synthetic sling will restore voiding in approximately 90% of patients; however, recurrent stress incontinence may occur in 15-20% of patients. Transvaginal urethrolysis is indicated when an incision does not work or if the urethra is felt to be fixed to the underside of the pubic symphysis. Suprameatal urethrolysis is unnecessary following mid-urethral sling procedures, as there is very little scarring immediately anterior to the urethra, and the obstruction is presumably due to excessive obstruction from the suburethral sling. Classically, suprameatal urethrolysis is indicated for obstruction following a Marshall-Marchetti-Krantz procedure, or for persistent obstruction following sling incision and/or transvaginal (submeatal) urethrolysis.

Dmochowski RR, Padmanabhan P, Scarpero HM: Slings: Autologous, biologic, synthetic, and midurethral, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 73, pp 2133-2134.

Question #44 **ANSWER=D**

The need for ventriculo-peritoneal shunting was found in approximately 70% of the infants in the prenatal-surgery group and 98% of those in the postnatal-surgery group. Prenatal surgery also resulted in improvement in the composite score for mental development and motor function at 30 months (p=0.007) and an improvement in several secondary outcomes, including ambulation by 30 months. However, prenatal surgery was associated with an increased risk of preterm delivery and uterine dehiscence at delivery. There has been no documentation of a positive effect on the incidence of spinal cord tethering, urinary continence or bowel function with in utero myelomeningocele repair. In non-randomized, controlled studies, prenatal surgery has not been shown to result in improved bladder dynamics nor function compared to historical controls.

Adzick NS, Thom EA, Spong CY, et al. A randomized trial of prenatal versus postnatal repair of myelomeningocele. NEJM 2011;364:993-1004.

Clayton DB, Tanaka ST, Trusler L, et al: Long-term urological impact of fetal myelomeningocele closure. J UROL 2011;186:1581-1585.

Question #45 **ANSWER=C**

Urologists frequently obtain imaging studies utilizing I.V. contrast agents that are often performed in the office under their direct supervision. Since use of these agents is associated with adverse events including potentially life-threatening anaphylactic-like reactions, an appreciation of the risk factors predisposing to these adverse events is essential. Adverse reactions to radiocontrast media are classified as either systemic allergic-type reactions or chemotoxic-type reactions. Chemotoxic events arise as a result of the physiochemical properties of radiocontrast agents, and include contrast-induced renal failure and seizures. Individuals with poor renal function, diabetes and intravascular volume depletion are predisposed to these events. Obesity, due to its association with metabolic syndrome and diabetes, is a known risk that increases the patient's susceptibility to a chemotoxic event. System allergic-type reactions occur due to the release of active cellular mediators that can result in urticaria, bronchospasm, laryngeal edema, hypotension, and anaphylaxis-like reactions. Patients who have a history of multiple systemic allergies (drug or nutritional allergies) or a history of asthma account for an inordinately large percentage of patient with allergic reactions. In point of fact a history of asthma results in a 3-5x increased risk of a systemic allergic type of reaction to radiocontrast media. "Allergy" to Betadine is a type of contact dermatitis and not associated with increased risk. There does not appear to be any racial differences in risk to either type of event.

Bush WH Jr, Lasser EC: Adverse reactions to intravascular contrast material, in Pollack HM, Mc Clennan BL (eds), Clinical Urography, ed 2. Philadelphia, WB Saunders Co, 2000, vol 1, chap 4, pp 43-66.

Fulgham PF, Bishoff JT: Urinary tract imaging: Basic principles, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 4, p 102.

Question #46 **ANSWER=E**

Autonomic dysreflexia (AD), a syndrome of unopposed sympathetic discharge classically occurs in patients with a complete spinal cord injury (SCI) at or above T-6 (above the T10-L2 sympathetic outflow. This dysreflexic response will typically occur secondary to, visceral distension (bladder or bowel), or pain stimulation below the level of the lesion. Symptoms classically are sweating and diaphoresis above the level of the lesion, a blood pressure rise of > 20 mm Hg over baseline levels, headache and bradycardia. In the treatment of AD, it should always be assumed that the bladder is distended and/or the urethral catheter malpositioned. Drainage of the bladder, placement of a urethral catheter, or verification that an indwelling catheter is functional and in the correct position, should always be the first step in management. All clothing should subsequently be loosened and the patient's upper torso should be elevated. If these maneuvers do not result in a decrease in blood pressure, topical or oral nitroglycerin is the recommended first line medical therapy. Topical nitroglycerin is preferred due to the ability to wipe off the medication from the skin if rebound hypotension should occur. Prior to nitroglycerin use, it must be verified that the patient has not taken a PDE-5 inhibitor within the prior 24 hours, the combination of NTG and a PDE-5 inhibitor increases the risk of severe rebound hypotension. If the patient has used a PDE-5 inhibitor, captopril 25 mg given sublinguinally or chewed is the drug of choice. Sublingual nifedipine once routinely recommended for this complication is no longer the drug of choice due to variable absorption, and episodic rebound hypotension that has resulted in strokes or myocardial infarction. If the blood pressure does not improve rapidly or rebound, hypertension develops the patient should be examined for other causes of AD including fecal impaction, renal or bladder calculi, decubitus ulcers and asymptomatic broken bones.

Wein AJ, Dmochowski RR: Neuromuscular dysfunction of the lower urinary tract, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 65, p 1926.

Question #47 **ANSWER=A**

Parenteral testosterone injection therapy (testosterone enanthate or cypionate) will cause significant peaks and valleys in serum testosterone levels which can cause mood swings and variations in libido and potency ("roller-coaster" effect). Oral, subcutaneous, and transdermal preparations do not have this "roller-coaster" effect. The alkylated oral androgens, e.g., fluoxymesterone, methyltestosterone, have serious liver toxicity and adverse effects on serum lipids (increased LDL, decreased HDL) and should not be used.

Morales A: Androgen deficiency in the aging male, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 29, pp 812, 817-819.

Question #48 **ANSWER=A**

A presumptive diagnosis of testicular teratoma can often be made based on testicular ultrasound findings. When a prepubertal testicular teratoma is expected it should be approached via an inguinal incision with vascular control of the spermatic cord. Juvenile testicular teratomas may be treated by either partial orchiectomy or orchiectomy depending upon the size of the mass. This prepubertal boy had a unilateral mature testicular teratoma that has been completely resected with radical orchiectomy. In a prepubertal boy, this is a benign lesion and can be followed with serial annual examinations if an orchiectomy was performed, or serial annual testicular ultrasound evaluations if a partial orchiectomy or enucleation was performed. Follow-up should be through puberty to verify adequate hormonal function of the contralateral testis. In a patient with a prepubertal testicular teratoma, there is no need for further CT scans, tumor markers, surgery, or chemotherapy. However, mature teratoma in the pubertal child or postpubertal adolescent has a clinical behavior similar to adults and should be managed with a standard post-orchiectomy protocol for NSGCT.

Ritchey ML, Shamberger RC: Pediatric urologic oncology, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 137, p 3727.

Question #49 **ANSWER=A**

The overall success rate for obtaining an erection with intraurethral alprostadil is approximately 55%. If it is successful in producing an erection, the most common side effect is penile pain that can include the scrotum and extremities. No treatment is needed for this pain, but it can be dose limiting in some patients. Terbutaline, methylene blue and Neo-Synephrine are useful for the treatment of priapism, which this patient does not have. No data is available for the use of ibuprofen with PGE-1 induced pain and it is unlikely to work based on ibuprofen's mechanism of action.

Burnett AL: Evaluation and management of erectile dysfunction, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 24, p 745.

Question #50 **ANSWER=B**

The horseshoe kidney is positioned more inferior, anterior and medial than a normal kidney. The upper pole is typically subcostal and superficial, making it the best option for percutaneous access. The medial position of the kidney often requires a percutaneous tract that passes through the paraspinous musculature.

Yap WW, Wah T, Joyce AD: Horseshoe kidney, in Smith AD, Badlani GH, Preminger GM, Kavoussi LR (eds): SMITH'S TEXTBOOK OF ENDOUROLOGY, ed 3. Oxford UK, Blackwell Publishing, 2012, vol 1, chap 61, pp 702-706.

Question #51 **ANSWER=D**

The right adrenal vein enters the IVC directly on its posterolateral aspect. It does not enter other veins between the adrenal gland and the IVC as occurs on the left side. The left adrenal vein joins with the left phrenic vein and enters the cranial aspect of the left renal vein. The lumbar vein and left gonadal vein enter the left renal vein but do not receive the adrenal vein.

Anderson JK, Cadeddu JA: Surgical anatomy of the retroperitoneum, adrenals, kidneys, and ureters, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 1, p 19.

Question #52 **ANSWER=E**

This patient has progressive urologic symptomatology that is refractory to a therapeutic modality that was once effective. When the physician encounters a patient with progression of the severity of symptoms, particularly in conjunction with new neurologic symptoms, a neurologic diagnosis such as multiple sclerosis should be considered. Performance of MRI (below the neck) is important in establishing the diagnosis of a neuropathic disease, and is contraindicated in patients with a sacroneuromodulation device in place. Therefore, it must be removed to allow this patient to proceed with the diagnostic MRI scan. Although evaluation of the position of the lead, consideration of reprogramming of the device, surgical revision of the device (pending the effects of reprogramming), or change in treatment modality might all be reasonable, in a patient without progressive neurologic deterioration they are not reasonable alternatives in this clinical scenario.

Betts CD, D'Mellow MT, Fowler CJ: Urinary symptoms and the neurological features of bladder dysfunction in multiple sclerosis. J NEUROL NEUROSUR PSYCH 1993;56:245-250.

Awad SA, Gajewski JB, Soghein SK, et al: Relationship between neurological and urological status in multiple sclerosis. J UROL 1984;132:499-502.

Vasavada SP, Rackley RR: Electrical stimulation and neuromodulation in storage and emptying failure, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 70, p 2034.

Question #53 **ANSWER=E**

Hyperparathyroidism should be suspected in patients with renal calculi and serum calcium levels over 10.1 mg/dl. In patients with suspected hyperparathyroidism, a thiazide challenge may unmask subtle primary hyperparathyroidism by increasing proximal tubular resorption of calcium resulting in a significant rise in serum calcium. The treatment of patients with primary hyperparathyroidism and renal calculi is parathyroidectomy, with over 90% improvement in calculus recurrence. In patients who present with symptomatic or obstructive renal calculi and who are not in hypercalcemic crisis, the calculi should be treated prior to the parathyroid gland.

Pearle MS, Lotan Y: Urinary lithiasis: Etiology, epidemiology, and pathogenesis, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 45, p 1270.

Question #54 **ANSWER=D**

The t-test is the most commonly used method for comparison of means between two groups. Chi-square analysis is the most important nonparametric test and is used to compare proportions. ANOVA is the appropriate test when more than two groups are being compared. Pearson's r test is used to evaluate strength and direction of the relationship between two interval variables. Spearman's rank order test is used to test for an association between ordinal positions in rankings.

Glaser AN: HIGH YIELD BIOSTATISTICS, ed 3. Philadelphia; Lippincott, Williams, & Wilkins, 2005, pp 41-53.
http://www.auanet.org/education/modules/core/topics/bus-comm-research/basic-research-stats/index.cfm#BIOSTATISTICS

Question #55 **ANSWER=E**

Indications for autologous sling include a severely dysfunctional urethra, as indicated by low LPP (0-60 cm H_2O), loss of urethral tissue (e.g., following synthetic mesh erosion into the urethra, urethral diverticulectomy, or urethrovaginal fistula repair), and multiple previous anti-incontinence procedures. While the other options listed are reasonable options to discuss with patients, this patient's low LPP and her history of previous surgery make autologous sling the best option of those listed.

Dmochowski RR, Padmanabhan P, Scarpero HM: Slings: Autologous, biologic, synthetic, and midurethral, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 73, p 2116.

Question #56 **ANSWER=D**

Pyocystitis may be a complication following supravesical diversion in individuals with a neurogenic bladder when a cystectomy is not performed. The failure of irrigation therapy to permanently suppress recurrent pyocystitis is an indication for surgical intervention. Vesicovaginostomy allows the bladder to drain and usually results in symptomatic improvement in patients who have pyocystitis unresponsive to standard treatment. In this woman, vesicovaginostomy would be a significantly less morbid option than simple cystectomy.

Spence HM, Allen TD: Vaginal vesicostomy for empyema of the defunctionalized bladder. J UROL 1971;106:862-864.

Khoudary KP, Green DH, Koudary ML, Wilkerson JE, Summers JL: Vaginovesicostomy using absorbable staples. BR J UROL 1997;79:127-128.

Fazili T, Bhat TR, Masood S, et al: Fate of the leftover bladder after supravesical urinary diversion for benign disease. J UROL 2006;176:620-621.

Question #57 **ANSWER=B**

The incidence of renal calculi in patients with UPJ obstruction is nearly 20%. Husmann and colleagues reported a 70-fold increased risk of stone formation in the pediatric population with UPJ obstruction. Although the obstruction plays a role in stone formation, several studies have demonstrated that patients with UPJ obstruction and concurrent renal calculi carry the same metabolic risks as other stone formers. Correction of UPJ obstruction did not prevent recurrent stones in most patients, and thus metabolic evaluation, rather than annual urinalysis alone, is the correct next step. Based on the findings of the metabolic evaluation, treatments such as dietary changes, potassium citrate, or hydrochlorothiazide may be appropriate, but not until the work-up is completed. Despite the fact that this was discovered during the evaluation of a UTI, antibiotic prophylaxis is not indicated.

Pearle MS, Lotan Y: Urinary lithiasis: Etiology, epidemiology, and pathogenesis, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 45, p 1284.

Question #58 **ANSWER=C**

Repair of vesicovaginal fistula, whether via an open or minimally invasive technique, requires adherence to basic principles of fistula repair. These include: adequate excision of the fistula, use of healthy tissues for repair, performance of a tension free anastomosis with multi-layered closure, interposition with omentum, and adequate bladder drainage. However, the challenge of a minimally invasive approach is losing pneumoperitoneum after the fistula is excised. Techniques such as packing gauze in the vagina and clamping the urethral catheter are helpful but they do not seal the opening adequately to maintain pneumoperitoneum and thus can make suturing more difficult. If pneumoperitoneum is maintained, exposure and ease of suturing should be no different. Risk of ureteral injury and port site complications should not differ between the procedures.

Richstone L, Scherr DS: Robotic and Laparoscopic Bladder Surgery, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 10. Philadelphia, Saunders Elsevier, 2012, vol 4, chap 84, p 2398.

Question #59 **ANSWER=B**

Streptococcal and Clostridial wound infections are characteristically invasive, painful, and occur within 24 hours after surgery. A thin, watery purulent discharge without frank abscess formation or foul smell is characteristic for Streptococcal infections. Clostridial infections are usually associated with intraoperative fecal contamination; the discharge is gray or reddish brown and foul smelling, and associated with wound crepitus and necrosis. Treatment should include systemic high dose penicillin. Opening of the surgical wound with debridement and drainage is necessary only if there are signs of crepitus or wound fluctuance or wound margin necrosis. Staphylococcal infections usually occur > 24 hours postoperatively, and are characterized by a localized indurated area of cellulitis with associated abscess formation with a thick yellow or cream-colored pus. Postoperative wound infections caused by enteric bacilli have a longer incubation period than those caused by staphylococcus.

Mandell J: Cellulitis, necrotizing fasciitis, and subcutaneous tissue infections, in MANDELL, DOUGLAS AND BENNETT'S PRINCIPLES AND PRACTICE OF INFECTIOUS DISEASES, ed 7. Churchill, Livingston and Elsevier, London, 2009, chap 990, p 1295.

Question #60 **ANSWER=A**

Primary idiopathic (endemic) calculi form in children, most commonly from North Africa, the Middle East, and Far East. With a large immigrant population in the United States, it is important to be aware of this health problem. These children rely on a cereal-based diet that is lacking in animal proteins. This leads to a dietary phosphate deficiency, low urinary phosphate and high peaks of ammonia. Due to this, the most common stone is ammonium acid urate. Though chronic dehydration can lead to calcium oxalate and uric acid stones, high urinary sodium, calcium and oxalate are not characteristic findings with endemic bladder stones.

Benway BM, Bhayani SB: Lower urinary tract calculi, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 89, p 2522.

Ost MC, Schneck FX: Surgical management of pediatric stone disease, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 135, p 3682.

Question #61 **ANSWER=C**

This patient would benefit from mesh excision and closure of the defect. Patients with asymptomatic vaginal mesh exposure can be observed. However, if symptomatic or desiring definitive treatment, the exposed mesh should be removed. Factors responsible for mesh exposure include poor vaginal tissue quality, excessive sling tension, infection, and type of graft material. Multifilament products appear to have greater risk for exposure compared to monofilament products and larger pore sizes in the graft decrease the risk of exposure. It is unlikely an exposure of this size would heal secondarily or with the use of topical estrogens. The majority of patients undergoing removal of exposed mesh do not have recurrent stress urinary incontinence postoperatively; thus, a concomitant sling is unnecessary.

Rovner ES: Complications of female incontinence surgery, Taneja SS (ed): COMPLICATIONS OF UROLOGIC SURGERY, ed 4. Philadelphia, Elsevier Saunders, 2010, chap 50, p 590.

Question #62 **ANSWER=A**

Cushing's syndrome may be caused by an adrenal tumor, ectopic ACTH production, and by excessive pituitary ACTH secretion (Cushing's disease). The basis of the high dose dexamethasone suppression test is that ACTH secretion in patients with Cushing's disease is not completely, but only partially, resistant to glucocorticoid feedback inhibition. Therefore, by increasing the dose of dexamethasone, pituitary secretion of ACTH is suppressed in patients with Cushing's disease and glucocorticoid production is reduced. In contrast, dexamethasone has no effect in patients with adrenal tumors and ectopic ACTH production, since their pituitary glands are already suppressed. Serum cortisol may be used instead of urinary parameters.

Kutikov A, Crispen PL, Uzzo RG: Pathophysiology, evaluation, and medical management of adrenal disorders, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 57, pp 1691-1696.

Question #63 **ANSWER=A**

At this stage of gestation, 90% of the amniotic fluid volume is derived from the fetal urine production. Oligohydramnios early in pregnancy nearly always predicts a poor renal outcome. Echogenicity is more subjective and may be indicative of dysplasia, but is not always predictive of a poor renal outcome. Although concerning, a kidney with thinned renal cortex may have normal function. The thinned cortex may simply be an anatomical or physical reflection of the severity of the obstructive process. A distended bladder may be normal or may only be indicative of VUR, and the cycling of refluxed urine that over time will cause stretching and expansion of the bladder. The magnitude of renal pelvic dilation may predict the degree of obstruction but does not correlate with renal function.

Lee RS, Borer JG: Perinatal urology, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 114, p 3050.

Question #64 **ANSWER=D**

The most frequently selected insufflation pressure for laparoscopy is 15 mmHg. If insufflation pressures of > 20 mmHg develop, three major systems are affected: 1) a decreased venous return and cardiac output occurs results in tachycardia, 2) an increase in pressure on the renal parenchyma results in a decrease in GFR and oliguria, 3) expanded abdominal pressure results in a decrease in diaphragmatic movement, decreased pulmonary insufflation, hypercarbia, and respiratory acidosis. When faced with the classic triad of tachycardia, oliguria and hypercarbia, the next step is to increase the respiratory rate and decrease the insufflation pressure. Although increasing the PEEP is advisable in patients with lung disease, this would not address the multiple systemic problems seen with elevated intraabdominal pressure. The steep Trendelenburg can cause a decrease in heart rate and systemic vascular resistance and a rise in mean arterial pressure and cardiac output. I.V. fluid bolus would not alter the physiologic condition and is not necessary to address the mild oliguria associated with pneumoperitoneum.

Eichel L, Clayman RV: Fundamentals of laparoscopic and robotic urologic surgery, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 9, pp 231-233.

Question #65 **ANSWER=B**

The key abnormalities in this evaluation are the two semen analyses demonstrating all normal parameters except for a markedly decreased volume. The history of hypertension is incomplete and should include medications since many anti-hypertensives interfere with bladder neck closure and ejaculation. TRUS is not required because the semen pH is normal implying that ejaculatory duct obstruction is unlikely. The next most useful test would be examination of a post-ejaculate urine specimen. The correct diagnosis can be made by finding large numbers of sperm (10-15/hpf) in the urine.

Jarow JP, Sigman M, Kolettis PN, et al: The optimal evaluation of the infertile male: AUA BEST PRACTICE STATEMENT. American Urological Association Education and Research, Inc, 2010. http://www.auanet.org/education/guidelines/male-infertility-d.cfm

Question #66 **ANSWER=E**

The incidence of urethral injuries following a pelvic facture are directly related to the number pubic rami-factures, the degree of the separation of the pubic symphysis, and the presence of diastasis of the sacroiliac joint. When any of these injuries are found to occur in conjunction with blood at the penile meatus or blood at the vaginal introitus, a urethral injury must be ruled out. While a retrograde urethrogram is the preferred modality to assess urethral integrity in males, cystoscopy and vaginoscopy under general anesthesia is preferred in pre- and post-adolescent females. It is important to note that in this patient population concurrent rectal injuries must also be ruled out. DRE once the mainstay to rule-out a concurrent rectal injury has been found to have a large false negative rate and currently rectal endoscopy or other imaging modalities must also concurrently be performed to rule-out a concomitant rectal injury.

Husmann DA: Pediatric genitourinary trauma, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 138, p 3748.

Question #67 **ANSWER=A**

Subcutaneous emphysema can develop intraoperatively from CO_2 gas leakage around trocars and diffusion into the subcutaneous space. This is more common in cases where the trocar sites are made too large, lengthy cases, or use of high intra-abdominal insufflation pressures. Trocars should be directed toward the organ of interest so as to minimize forceful redirection of the trocar and instruments, resulting in enlargement of the trocar tract and gas leakage into the subcutaneous tissues. In obese patients, trocar length limits may result in the trocar pulling back into the subcutaneous tissues and causing gas leakage. In such cases, an extra-long trocar may be necessary. In assessing this patient’s particular case, the first step is to ensure that all trocars are properly positioned within the intraperitoneal cavity, and that widening of the tracts has not occurred. Simply relocating the gas insufflation without ensuring proper trocar placement would not correct the problem. Although adjusting ventilator settings may help compensate for the hypercarbia, the initial problem has not been solved. Lastly, converting to an open operation just because of subcutaneous emphysema would be too extreme a measure.

Eichel L, Clayman RV: Fundamentals of laparoscopic and robotic urologic surgery, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 9, pp 236-237

Question #68 **ANSWER=A**

While studies of empirical treatment of idiopathic oligospermia have shown improvement in sperm parameters, this occurs in a minority of men. Oral agents such as clomiphene citrate, as well as gonadotropins, have been used. Treatment with human chorionic gonadotropin does not generally achieve consistent improvement in sperm concentration, sperm motility, or pregnancy rate. Seminal volume does not increase in men with normal testosterone levels. Testosterone levels do rise because of the stimulation of testosterone production by Leydig cells. Some testosterone is converted to estradiol by the enzyme aromatase.

Sabanegh E, Agarwal A: Male infertility, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 21, pp 639, 645.

Question #69 **ANSWER=D**

The descended testis is not hypertrophied (> 2 cm in length in a prepubertal boy) implying that the undescended testis is present and located in an abdominal position. None of the imaging studies would eliminate the need for diagnostic laparoscopy to exclude an intra-abdominal testicle. Scrotal exploration would be a reasonable option only if the descended testis was hypertrophied, as approximately 90-95% of the cases will have documented gonadal vessels in the inguinal canal. However, it should be noted that hypertrophy of the contralateral testis, if present, is neither perfectly sensitive nor specific for the presence of vanishing testis. Therefore, surgical exploration is indicated in all children with a nonpalpable testis, regardless of the size of the contralateral testis. In 5% of cases with unilateral hypertrophy, the testicle will have torsed intra-abdominally, and laparoscopy or retroperitoneal dissection will be necessary to visualize the blind-ending vessels proximal to the internal ring. There is no role for hormonal therapy to induce testicular descent due to its low efficacy.

Barthold, JS: Abnormalities of the testis and scrotum and their surgical management, in Wein AJ, Kavoussi, LR, Novick AC, Partin, AW, Peters, CA (eds): CAMPBELL'S UROLOGY, ed 10. Philadelphia, Saunders Elsevier, 2012, vol 4, chap 132, p 3565.

Kolon TF, Herndon CDA, Baker LA, et al: Evaluation and treatment of cryptorchidism: AUA GUIDELINE. American Urological Association Education and Research, Inc, 2014.http://www.auanet.org/education/guidelines/cryptorchidism.cfm

Question #70 **ANSWER=E**

Any issues of obstruction should be resolved before proceeding with AUS placement. Opening the bladder neck contracture with either dilation or resection and simultaneous AUS placement would not be recommended. It is unknown if the bladder neck contracture will remain open with either therapy, and this issue needs to be resolved prior to AUS placement, as treatment of a bladder neck contracture with an AUS in place can be very challenging. Steroid injection into the resection site is not indicated and would not alter the treatment strategy. This patient should have his bladder neck contracture opened and then undergo repeat cystoscopy in the office. If the bladder neck remains patent over time (at least three months) then AUS placement can proceed. Simultaneous sphincter placement in the setting of a less severe bladder neck contracture has been advocated.

Wessells H, Peterson AC: Surgical procedures for sphincteric incontinence in the male: The artificial genitourinary sphincter and perineal sling procedures, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 79, p 2293.

Question #71 **ANSWER=A**

The major advantages of fluoroscopy for stone location are: a short learning curve, a wide range of indications for in situ treatment, and multifunctional use of x-ray. The localizing problems for fluoroscopy consist chiefly of stones close to the vertebral column and radiolucent calculi. The advantages of ultrasound for stone location are: low purchase costs and maintenance, no x-ray exposures, the possibility of continuous real-time monitoring, and location of radiolucent calculi. Calculi in the middle ureter are almost impossible to localize with ultrasound. Multiple calculi may be problematic for ultrasonic stone localization.

Matlaga BR, Lingeman JE: Surgical management of upper urinary tract calculi, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 48, p 1390.

Question #72 **ANSWER=D**

VCUG is recommended if there is evidence of renal scarring on ultrasound or if there is a history of UTI in the sibling who has not been tested. VCUG is recommended for children with high-grade (Society of Fetal Urology grade 3 and 4) hydronephrosis (not just pelviectasis), hydroureter or an abnormal bladder on ultrasound (late term prenatal or postnatal), or who develop a UTI on observation. VCUG is not routinely recommended for all siblings of a child with VUR, or for the offspring of a former patient with VUR.

Peters CA, Skoog SJ, Arant BS Jr, et al: Management and screening of primary vesicoureteral reflux in children: AUA GUIDELINE. American Urological Association Education and Research, Inc, 2010. http://www.auanet.org/education/guidelines/vesicoureteral-reflux-a.cfm

Question #73 **ANSWER=B**

UTI in patients with spinal cord injury on CIC is commonly seen but can be a challenge to diagnose. Almost all urine collections will show bacteriuria, and pyuria may occur solely due to the irritative effects of catheterizations, and may not always be related to the presence of infection. The usual symptoms of UTI such as urinary frequency, urgency, and dysuria will not be noted in patients with a complete neurologic injury who have no bladder sensation. Typical UTI symptoms in a patient with a spinal cord injury may include urinary incontinence between catheterizations, increased spasticity (as seen in this patient), malaise, lethargy, persistent cloudy or malodorous urine, and discomfort at the level of the flank, back, or abdomen. Bacteria levels are problematic to interpret and are classically only treated if they are greater than or equal to 100 cfu/ml and the patient is symptomatic. Due to the symptomatic complaint of increased spasticity and positive urine culture, this patient should be given antibiotics. If the spasticity is not resolved after treatment, the patient should be carefully examined for any physical injury below the level of his lesion, such as obstipation, decubitus ulcer, ingrown toe nail, developing syrinx, etc. Baclofen is a commonly used treatment for spasticity in spinal cord injury (SCI) patients, and should be considered for use if the spasticity is not resolved after treatment of the UTI, and additional patient evaluation fails to reveal an underlying cause.

Elevated storage pressures do place a patient at increased risk of symptomatic UTI, and urodynamics should be considered if this patient continues to experience recurrent symptomatic infections.

Schaeffer AJ, Schaeffer EM: Infections of the urinary tract, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 10, pp 322-324.

Question #74 **ANSWER=C**

It must be decided whether this woman has recurrent E. coli infections or a persistent source of infection. One of the causes of surgically correctable bacterial persistence in the urinary tract is a unilateral infected atrophic kidney. To prove that this woman has bacterial persistence, however, upper tract bacterial localization cultures with bilateral ureteral catheterization need to be performed before nephrectomy is considered to treat her infections. If the kidney is not infected, these infections are the result of frequent E. coli reinfections, in which case a right nephrectomy would not be helpful in treating her. An indium-labeled WBC scan may not be helpful if the kidney is inflamed but not the source of recurrent E. coli infections.

Schaeffer AJ, Schaeffer EM: Infections of the urinary tract, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 10. Philadelphia, Saunders Elsevier, 2012, vol 1, chap 10, pp 290-291.

Question #75 **ANSWER=C**

Neoadjuvant chemotherapy is indicated: in children at risk for tumor recurrence (syndromes such as Beckwith-Wiedemann), in very large tumors or with tumor in the IVC above the hepatic veins making primary resection difficult, and in synchronous bilateral tumors. In bilateral tumors, nephron-sparing surgery is the goal, and repeat CT scan is indicated after chemotherapy to assess tumor shrinkage for timing of partial nephrectomies. Percutaneous or open renal mass biopsy will upstage the tumor and are not required for initiation of therapy.

Ritchey ML, Shamberger RC: Pediatric urologic oncology, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 137, pp 3721-3722.

Question #76 **ANSWER=E**

Clinical studies reveal that that up to half of the patients with the combination of LUTS and oliguria will have significantly improved symptoms after transplantation and the resolution of the oliguria, thereby rendering surgical treatment unnecessary. It is noteworthy that oliguric men undergoing surgical intervention for BPH have a significantly higher risk of developing either a bladder neck contracture, a prostatic fossa obliteration, or a urethral stricture if surgical treatment is performed before transplantation. To avoid these complications, it is recommended that treatment of bladder outlet obstruction in patients with oliguria be delayed until after the transplant is performed.If the physician elects to perform a TURP or TUIP in an oliguric or anuric patient the establishment of normal voiding cycles for a period of six weeks post-surgery has been shown to decrease the postoperative complications of urethral obstruction. To allow for normal voiding, either a SP tube is placed or CIC is done, and water or saline is instilled into the bladder four to five times daily with the patient instructed to void per urethra. These maneuvers prevent the "dry urethra" and aid in prevention of bladder neck or obliterative urethral strictures. Finasteride would be indicated for a patient with a larger prostate with an elevation in residual urine. OnabotulinumtoxinA would be indicated for detrusor overactivity unresponsive to medical therapy with anticholinergics. Treatment of this patient now with onabotulinumtoxinA may improve his bladder capacity, but could lead to urinary retention and the need for CIC.

Barry JM, Conlin MJ: Renal transplantation, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 44, p 1231.

Question #77 **ANSWER=D**

Improved patency and pregnancy after vasectomy reversal are correlated with a short time interval between vasectomy and reversal. It has been demonstrated that a proximal vas segment in excess of 2.7 cm predicts the presence of vasal fluid with whole sperm. It is generally believed that the presence of a granuloma and a smaller luminal diameter are favorable, as pressure below the level of the vasectomy may be less. Testicular specimens obtained after vasectomy reveal increased thickness of the seminiferous tubules, reduction in the number of Sertoli cells and spermatids, and an increase in the cross-sectional tubular area. The presence of interstitial fibrosis has an adverse effect on post-vasovasostomy fertility. The type of microscopic anastomosis (multi or one-layer) does not correlate with patency rates.

Witt MA, Heron S, Lipshultz LI: The post-vasectomy length of the testicular vasal remnant: A predictor of surgical outcome in microscopic vasectomy reversal. J UROL 1994;151:892-894.

Belker AM, Thomas AJ, Fuchs EF, et al: Results of 1,469 microsurgical vasectomy reversals by the vasovasostomy study group. J UROL 1991;145:505-511.

Goldstein M: Surgical management of male infertility, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 22, pp 656-659.

Question #78 **ANSWER=B**

This child has balanoposthitis. In mild cases, simple removal of irritating agent (such as soaps and detergents) can lead to improvement, but this child has had significant symptoms for over 24 hours and is having difficulty voiding. The correct next step is topical antibiotic rather than observation. If the topical antibiotic is ineffective, then topical or oral antifungal agents may be tried next. Unlike with balanitis xerotica obliterans (BXO), topical testosterone is inappropriate. In cases of severe swelling, topical corticosteroid may be tried. Performance of a dorsal slit is too aggressive for this benign condition.

Link RE: Cutaneous diseases of the external genitalia, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 15, p 451.

Question #79 **ANSWER=E**

It is unlikely that a man with ED not using any erectogenic medications will develop ischemic priapism. Moreover, his ABG does not suggest ischemic, nor non-ischemic priapism. Cavernosal blood gas in men with ischemic priapism typically has a PO_2 of < 30 mmHg, a PCO_2 of > 60 mmHg, and a pH < 7.25. Cavernous blood gases in men with nonischemic priapism are similar to the blood gases of arterial blood. Normal flaccid penis cavernous blood gas levels are approximately equal to those in normal mixed venous blood. The findings in this patient, blood gas values equal to normal mixed venous blood are most consistent with priapism secondary to metastatic prostate cancer to the corpora and corpora biopsy is indicated. In view of the blood gas finding the use of oral terbutaline, sympathomimetic cavernosal injections or shunting would be inappropriate.

Montague DK, Jarow J, Broderick GA, et al: Guideline on the management of priapism. American Urological Association Education and Research, Inc, 2003. http://www.auanet.org/education/guidelines/priapism.cfm

Lin YH, Kim JJ, Stein NB, Khera M: Malignant priapism secondary to metastatic prostate cancer: A case report and review of the literature. REV UROL 2011;13:90-94.

Question #80 **ANSWER=C**

Cushing's syndrome implies glucocorticoid excess, while Cushing's disease is glucocorticoid excess specifically due to a pituitary adenoma. Approximately 80% of patients with Cushing's syndrome have hypertension at the time of presentation. Glucocorticoids have weak mineralocorticoid effects resulting in retention of salt and water. With excessive glucocorticoid production these weak mineralocorticoid effects can cause hypertension. Plasma catecholamines are typically not elevated.

Kutikov A, Crispen PL, Uzzo RG: Pathophysiology, evaluation, and medical management of adrenal disorders, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 57, pp 1691-1694.

Question #81 **ANSWER=D**

Patients who undergo bladder augmentation with bowel should be counseled on the possible long-term risk of carcinoma formation, renal and bladder calculi and metabolic abnormalities. The earliest report of tumor formation is four years after bladder augmentation with bowel. Yearly cystoscopic surveillance had been recommended in the past, though the timing of when to start the surveillance was not well-defined. Recent studies have shown that routine yearly endoscopy is not indicated due to the low incidence of malignancy following a bladder augmentation (approximately 1.5-2.5% of patients per decade), lack of proven benefit, and high cost. In the absence of other risk factors, the current recommendation is for annual visits with renal and bladder ultrasound (rule-out stones or the development of hydronephrosis secondary to noncompliance with CIC), electrolytes (rule-out metabolic abnormalities), creatinine, serum B_{12} (rule-out nutritional deficiencies), and urinalysis (assess for hematuria). Endoscopy is reserved for individuals with a past medical history of gross hematuria, microscopic hematuria (> 50 RBC/hpf), new onset of hydronephrosis (rule-out tumor obstructing the ureteral orifice), bladder calculi, chronic bladder/perineal pain or a history of four or more symptomatic UTI per year. Using this screening criteria, > 90% of tumors arising in a bladder augment can be discovered without the use of annual endoscopy.

Higuchi TT, Fox JA, Husmann DA. Annual endoscopy and urine cytology for the surveillance of bladder tumors after enterocystoplasty for congenital bladder anomalies. J UROL 2011;186:1791-1795.

Question #82 **ANSWER=C**

Residual urine volumes have a large intraindividual variability, are not associated with renal or bladder damage, are not well-correlated with symptoms, and are not predictive of surgical outcome. In addition, an elevated PVR has not been associated with recurrent pyelonephritis. Therefore, the test is of limited clinical value and, in fact, the AUA Guidelines classify the test as optional in the initial diagnostic evaluation and subsequent assessment of men with bothersome LUTS.

McVary KT, Roehrborn CG, Avins AL, et al: Management of benign prostatic hyperplasia (BPH): AUA GUIDELINE. American Urological Association Education and Research, Inc, 2010. http://www.auanet.org/education/guidelines/benign-prostatic-hyperplasia.cfm.

McNicholas TA, Kirby RS, Lepor H: Evaluation and nonsurgical management of benign prostatic hyperplasia, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 92, p 2620.

Question #83 **ANSWER=A**

Prostatic granulomas are recognized with increasing frequency in men following intravesical BCG therapy. Although long-term outcome is uncertain, the granulomas are generally asymptomatic and no therapy is recommended. This patient had a prior normal digital rectal exam of the prostate and his serum PSA is normal. Thus, it is unlikely he has prostate cancer and further biopsies are no more indicated in him than in any other age matched male patient.

Beltrami P, Ruggera L, Cazzoletti L, et al: Are prostate biopsies mandatory in patients with prostate-specific antigen increase during intravesical immuno- or chemotherapy for superficial bladder cancer? PROSTATE 2008;68:1241-1247.

Tareen B, Taneja SS: Complications of intravesical therapy, in Taneja SS (ed): COMPLICATIONS OF UROLOGIC SURGERY, ed 4. Philadelphia, Elsevier Saunders, 2010, chap 8, pp 97-98.

Question #84 **ANSWER=E**

The horseshoe kidney involves anteriorly oriented renal pelves and a low-lying kidney mass with the isthmus sitting just below the inferior mesenteric artery takeoff from the aorta. This makes a transperitoneal, laparoscopic approach to this large stone very attractive. With moderate hydronephrosis, a simple transmesenteric exposure of the renal pelvis followed by pyelotomy can allow intact removal of the large stone. Simple lap suturing can close the pyelotomy incision. The option of percutaneous lithotripsy is appropriate to consider; however, access should be through the upper pole because of calyceal anatomy. The lower pole of a horseshoe kidney will be too medial and anterior for optimal access. Ureteroscopic treatment using a holmium laser is not a good option with a stone of this size as the duration of procedure and failure rate will both be high. ESWL will also carry a high failure rate due to stone size. A double J stent does not offer an advantage in treating the stone in this scenario.

Ost MC, Schneck FX: Surgical management of pediatric stone disease, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 135, p 3682.

Question #85 **ANSWER=A**

This patient is likely experiencing worsening of symptoms due to incomplete bladder emptying. Approximately 5% of patients with idiopathic overactive bladder will have issues of incomplete bladder emptying/urinary retention requiring CIC after injection of 100 units of onabotulinumtoxinA. Determination of her PVR would allow for proper evaluation for incomplete bladder emptying and guide the initiation of CIC as needed. Mirabegron is a beta-3-adrenergic receptor agonist and is indicated for OAB; this would only be considered once the possibility of incomplete bladder emptying has been ruled out. Urodynamics is unnecessary to rule-out urinary retention. However, if this patient is emptying adequately, urodynamics may then be considered for diagnostic purposes. If a patient requires reinjection, this should be done at least three months after the initial injection. In addition, studies suggest that the 100 unit dose is adequate for OAB, and a higher dose is not beneficial and maybe associated with an increased incidence of urinary retention.

Andersson KE, Wein AJ: Pharmacologic management of lower urinary tract storage and emptying failure, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 68, p 1987.

Nitti VW, Dmochowski R, Herschorn S, et al: OnabotulinumtoxinA for the treatment of patients with overactive bladder and urinary incontinence: results of a phase 3, randomized, placebo controlled trial. J UROL 2013:189:2186-2193.

Question #86 **ANSWER=C**

Chemotherapy-naive relapses occur in men with clinical stage (CS) I NSGCT managed with either surveillance or RPLND, and in the men with CS IIA-B NSGCT treated with RPLND alone. In general, these patients are treated with induction chemotherapy, with the specific regimen and duration of therapy determined by risk, and cure rates exceed 95%. This patient has an abdominal relapse after observation. Correct management is three cycles of BEP for disseminated germ cell tumor in good risk patients. Biopsy of the mass could miss elements of residual cancer and should not be performed. XRT is not indicated for mixed germ cell tumors of the testis. Retroperitoneal lymphadenectomy is usually not performed prior to chemotherapy for masses > 3 cm on CT scan, avoiding double therapy in these patients.

Stephenson AJ, Gilligan TD: Neoplasms of the testis, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 31, p 859.

Question #87 **ANSWER=E**

DDAVP, similar to ADH, exerts its effects on the collecting ducts to absorb water. DDAVP is often used for the treatment of nocturnal enuresis in children and polynocturia in adults. Side effects, although rare, do exist and may result in hyponatremia, headaches, and on extremely rare occasions, hyponatremic-induced mental confusion and seizures. If this medication is chronically administered, the urologist should consider obtaining intermittent serum electrolyte evaluations to observe for the development of hyponatremia. DDAVP should not be used to treat nocturnal polyuria in the adult with a history of CHF or renal insufficiency.

Shoskes DA, McMahon AW: Renal physiology and pathophysiology, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 38, p 1031.

Question #88 **ANSWER=E**

Persistent or recurrent LUTS may occur after TURP. Since < 20% of these men have any evidence of recurrent or persistent bladder outlet obstruction, assessment with pressure-flow studies are particularly useful to make determinations regarding the appropriateness of further surgical intervention. Many of these patients' symptoms are due to poor bladder contractility or detrusor overactivity. Uroflowmetry alone may be used for screening purposes, although it may be misinterpreted in the presence of high-flow, high-pressure voiding. Cystoscopy will rule-out a stricture or bladder neck contracture but the presence of visually obstructing prostatic tissue does not correlate with bladder outlet obstruction. Neither residual urine nor creatinine (even if abnormal) sheds light on the etiology of the emptying disorder.

McNicholas TA, Kirby RS, Lepor H: Evaluation and nonsurgical management of benign prostatic hyperplasia, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 92, p 2618.

Question #89 **ANSWER=E**

It was previously believed that scrotal surgery markedly increased the risk of local recurrence and inguinal node metastases. Further evidence now suggests that this risk has been overestimated and a formal hemiscrotectomy or prophylactic inguinal lymph node dissection is rarely indicated. A meta-analysis of all evaluable reported series (1182 total cases, 206 with scrotal violation) found that the risk of local recurrence increased from 0.4% to 2.9% with scrotal violation, but there was no difference in the distant recurrence or survival rates. In patients with low-stage NSGCT, the scrotal scar should be widely excised with the spermatic cord remnant at the time of RPLND. The inguinal nodes should be preserved.

Sheinfeld J, Bosl GJ: Surgery of testicular tumors, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 32, pp 872-873.

Question #90 **ANSWER=C**

According to the American Society of Anesthesia guidelines, NPO after midnight is no longer advisable or safe for children. Recommendations for fasting prior to anesthesia include: clear liquids - 2 hours, breast milk - 4 hours, formula or solid food - 6 hours, and fatty foods - 8 hours.

Estrada CR Jr, Ferrari LR: Core principles of perioperative management in children, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 119, p 3202.

Question #91 **ANSWER=E**

Spinal shock is defined as the loss of motor, sensory, reflex, and autonomic neurologic function below the level of spinal cord injury. It is a temporary physiologic disorganization of spinal cord that classically starts within one hour after the neurologic injury. Resolution of spinal cord shock classically begins with the initial return of the bulbocavernosus reflex followed by the eventual restoration of the deep tendon reflexes (DTR) below the level of spinal cord injury. Resolution of spinal cord shock may be defined by either the recurrence of the bulbocavernous reflex or by return of the DTR, the latter of which usually occurs at four to six weeks post injury. Return of the DTR, will be followed by a progressive increase in muscle spasticity and the development of detrusor over activity. The severity of muscle spasticity and/or detrusor dysfunction increases during the first year post injury due to a combination of neuronal sprouting, done by the neurons in an attempt to make neural connections below the spinal cord injury, combined with the up regulation of neural receptors within the target organs. The full extent of the neurogenic bladder dysfunction may take one to two years to become completely manifested. Significant surgical intervention, for example, formation of continent catheterizable stoma or determining if the patient would need a bladder augmentation should therefore be delayed for at least one year following injury to allow the severity of the neurourologic injury to be revealed. The timing for the initial urodynamic study should not arbitrarily be based on the time since the injury, but rather on the clinical findings of the patient. Specifically, the return of DTR associated with the strength of these reflexes following minimal stimulation should dictate when to perform the initial urodynamic evaluation. Since the initial in-patient rehabilitation stay is usually no more than two to three weeks, a study at this time only reflect the finding of detrusor underactivity due to the manifestations of spinal cord shock. The initial findings of urinary incontinence are often a consequence of a UTI due to the initiation of CIC and are not necessarily an indication to perform the initial urodynamic evaluation. On the other hand, new onset of urinary incontinence in a patient with neurogenic bladder who has been stable on their bladder management for greater than six months and is not actively infected would be a reason to evaluate the patient with urodynamic studies.

Wein AJ, Dmochowski RR: Neuromuscular dysfunction of the lower urinary tract, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 65, p 1920.

Question #92 **ANSWER=C**

Patients with a NSGCT who have a > 90% reduction in the size of the retroperitoneal mass with chemotherapy and have no teratomatous elements in their tumor (such as this patient who had a pure embryonal tumor) uncommonly have either viable cancer or teratoma in the residual mass at the time of retroperitoneal lymph node resection. In an early study, Donohue and colleagues (1987) reported that none of 15 patients without teratoma in the primary tumor and who achieved a 90% or greater reduction in the size of the residual mass with chemotherapy had any evidence of viable malignancy or teratoma at postchemotherapy surgery. In contrast, seven of nine patients (78%) with teratoma in the primary tumor experiencing a similar reduction in the size of the metastasis with chemotherapy had evidence of viable malignancy and/or teratoma. Predictors of necrosis in post-chemotherapy surgery specimens include the absence of teratoma in the primary tumor, significant percentage reduction (e.g. 90%) in the retroperitoneal mass with chemotherapy, and the size of the residual mass. However, despite statistical modeling using these and other factors, a consistent false-negative rate for necrosis (of up to 20% in some studies) has been reported, largely due to the presence of teratoma. Thus, the presence of necrosis only in the retroperitoneum cannot be predicted with sufficient accuracy to safely obviate the need for surgery in patients with residual masses. Normalization of the serum markers does not predict the presence of fibrosis.

Stephenson AJ, Gilligan TD: Neoplasms of the testis, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 31, pp 857-858.

Donohue JP, Rowland RB, Kopecky K, Steidle CP, et al: Correlation of computerized tomographic changes and histological findings in 80 patients having radical retroperitoneal lymph node dissection after chemotherapy for testis cancer. J UROL 1987;137:1176-1179.

Question #93 **ANSWER=E**

Patients with a concentrating defect due to obstruction such as PUV may present with worsening incontinence along with upper urinary tract deterioration due to excessive urine production. The urine volume will not decrease significantly with either salt or water restriction. Furthermore, water restriction is dangerous and often counterproductive, as it may lead to dehydration and worsening renal function. Patients with a renal concentrating defect typically do not respond to DDAVP. Unless there is evidence of myogenic failure and incomplete bladder emptying, daytime CIC to further eliminate post void residual is unlikely to help this patient. It has been suggested that continuous nighttime drainage can improve the fluid dynamics, thus restoring the upper urinary tract (decreasing bilateral hydroureteronephrosis), as well as improving daytime urinary incontinence.

Casale AJ: Posterior urethral valves, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 126, p 3402.

Question #94 **ANSWER=C**

Preoperative bladder volume may be the most important predictor of success. If a significant increase in bladder volume capacity is needed, autoaugmentation is not likely to be as useful as other reconstructive techniques. Autoaugmentation usually increases bladder compliance, and operative time is shorter than for bowel augments without a high risk of perforation. Studies have shown no increased complication rate from subsequent enterocystoplasty, if needed.

Adams MC, Joseph DB: Urinary tract reconstruction in children, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 129, pp 3488-3489.

Question #95 **ANSWER=D**

The patient has a Stage II penile cancer with invasion of the corpora that is associated with a much higher incidence of positive lymph nodes. Although the lymph node has decreased in size, it is still palpable after six weeks and deserves excision. Since this patient is at high risk for nodal disease, neither a negative needle aspiration nor a negative sentinel node biopsy should dissuade one from lymphadenectomy. Among patients found to have unilateral positive groin nodes, a bilateral lymphadenectomy is indicated due to the high rate of bilateral disease. By comparison, patients who present with unilateral adenopathy beyond one year are treated with ipsilateral lymphadenectomy.

Pettaway CA, Lance RS, Davis JW: Tumors of the penis, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 34, pp 912-922.

Question #96 **ANSWER=D**

Fowler's syndrome was first described in 1985. It is a cause of urinary retention in young women that is associated with abnormally increased EMG activity that results in impaired external sphincter relaxation. No neurologic or anatomic abnormality is associated with the condition, though it has been noted that women with Fowler's syndrome often have polycystic ovaries raising the possibility of a focal hormonal role. That said, neither hormone therapy nor onabotulinumtoxinA injection or alpha-blockade have been found to be successful therapies. Interestingly, however, the condition has been found by several groups to be highly responsive to neuromodulation.

Wein AJ, Dmochowski RR: Neuromuscular dysfunction of the lower urinary tract, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 65, p 1940.

Question #97 **ANSWER=B**

The deep dorsal vein is occasionally ligated, dissected, and excised during a dorsal penile plication and the plication sutures are then placed in the venous bed. Thus, there is no need to salvage, convert, or abort the procedure. Excision and grafting is becoming less favorable due to the possible development of erectile dysfunction as a result of veno-occlusive dysfunction.

Jordan GH, McCammon KA: Peyronie's disease, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 28, p 804.

Question #98 **ANSWER=E**

Cycloserine inhibits BCG growth within 24 hours. The other drugs listed require two to seven days to inhibit BCG growth. Because of its relatively rapid action, cycloserine can be lifesaving in patients with BCG sepsis. Isoniazid, rifampin, and ethambutol all have slower onset of action and are less useful in the immediate management of life threatening BCG sepsis.

Wood DP: Urothelial tumors of the bladder, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 80, p 2345.

Question #99 **ANSWER=C**

Cystine stones occur in patients homozygous for a complex autosomal recessive disorder of amino acid transport involving cystine, ornithine, lysine, and arginine. Onset is usually in the first or second decades. Cystine crystals are hexagonal and cystine stones are very dense making them difficult to treat by lithotripsy. Medical therapy, by increasing the solubility of cystine, is the mainstay of treatment. This disorder is noted to be of increased incidence in the Japanese population.

Ferrandino MN, Pietrow PK, Preminger GM: Evaluation and medical management of urinary lithiasis, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 46, pp 1290-1291.

Question #100 **ANSWER=C**

All exogenous testosterone products serve as a natural contraceptive, and thus, should not be given to men who are trying to achieve a pregnancy. Human chorionic gonadotropin is an LH analog and will increase endogenous testosterone, as well as potentially improve semen parameters. A scrotal ultrasound may be indicated if there was a suspicion for varicoceles although this patient’s exam was normal. A testis biopsy would not be indicated in this situation.

Burnett AL: Evaluation and management of erectile dysfunction, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 24, pp 739-740.

Sabanegh E, Agarwal A: Male infertility, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 21, pp 618, 639.

Question #101 **ANSWER=D**

Breast tenderness and enlargement during hormonal therapy for prostate cancer is due to an altered ratio of serum estrogens and testosterone. Leuprolide inhibits pituitary LH release so there is no rise in serum estrogens. Ketoconazole inhibits androgen and estrogen synthesis. Bicalutamide inhibits both end organ and central androgen receptors so that both LH and androgen levels increase with loss of negative feedback inhibition. Increased androgen is converted to estradiol, which can cause painful gynecomastia. Although finasteride can cause gynecomastia, the most likely cause is bicalutamide monotherapy.

Nelson JB: Hormone therapy for prostate cancer, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 109, p 2939.

Question #102 **ANSWER=A**

This situation describes retractile testes. The cremasteric reflex is responsible for the superior retraction of the testes, and this reflex becomes more pronounced in many boys between two and eight years of age. The principal diagnostic characteristic is that the testis will remain without tension in a scrotal position after fatiguing (holding the testis manually in the scrotum for approximately 30 seconds and releasing the testis) until the reflex is once again stimulated. Some testes may retract into a higher position than others and require more persistent exam to evaluate and diagnose. Retractile testes have been shown to grow normally over time and be associated with normal paternity rates, thus requiring no immediate intervention. There is an associated phenomenon of secondary "ascent" in 2-4% of boys that may be associated with deterioration of germ cells. For this reason, it is appropriate to examine boys with retractile testes annually until either puberty arrives or the testis becomes non-retractile. hCG injection will consistently cause retractile testis to become intrascrotal and may be used in some cases where the diagnosis of retractile vs. undescended is uncertain. The testicles will, however, frequently retract once the hormonal stimulation is complete. In the case described, retractility is the clear diagnosis; therefore, neither further hormonal studies nor surgery are required.

Barthold JS: Abnormalities of the testes and scrotum and their surgical management, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 132, pp 3560-3562.

Kolon TF, Herndon CDA, Baker LA, et al: Evaluation and treatment of Cryptorchidism: AUA GUIDELINE. American Urological Association Education and Research, Inc, 2014. http://www.auanet.org/education/guidelines/cryptorchidism.cfm

Question #103 **ANSWER=C**

The use of quick connectors for AUS allows for a secure and watertight connection between the reservoir, cuff, and pump in a freshly placed device. However, studies show they are associated with suboptimal results when they are used for revision surgery. Presumably, the decrease in success is due to the formation of the biofilm on pre-existing devices. Studies suggest that the biofilm interferes with the tubing connection using the quick connectors, and thus leads to a suboptimal connection that is at greater risk of leaking. Hand-tie connectors should be used in all AUS revision procedures. If the entire device is removed and replaced, the quick connectors may be used.

Wessells H, Peterson AC: Surgical procedures for sphincteric incontinence in the male: The artificial genitourinary sphincter and perineal sling procedures, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 79, p 2298.

Question #104 **ANSWER=B**

Penetrance for all of the manifestations of VHL is incomplete. Pheochromocytoma is found only in certain families with the VHL syndrome, primarily those with a missense mutation of the VHL gene. All of the other manifestations of VHL are found in most families with the syndrome. A careful family history and thorough review of preoperative CT scans for potential associated tumors is important in all patients with familial RCC. Pheochromocytomas in particular are a critical entity to recognize prior to any surgical intervention.

Campbell SC, Lane BR: Malignant renal tumors, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 49, p 1440.

Question #105 **ANSWER=D**

Plastic bag specimens are unreliable and unacceptable for diagnosis of UTI in high-risk populations and infants. Generally, if a UTI is suspected in a child who is not yet toilet trained, only a catheterized or needle-aspirated specimen is acceptable for diagnosis because bagged urinary specimens have an unacceptably high false-positive rate. Under special collection circumstances when the perineum is cleaned well and the bag removed and processed promptly after voiding, a bagged specimen or even a diaper specimen that shows no growth is useful in eliminating bacteriuria as a diagnosis. In this infant, the urinalysis is equivocal and the risk of UTI is increased. Thus, a more definitive diagnosis with a catheterized urine specimen is needed prior to the initiation of any type of antibiotic therapy. She would likely be treated with oral antibiotic therapy as an outpatient (not observed or managed with I.V. antibiotic) only after a catheterized specimen has been obtained. Repeat ultrasound might be indicated if she has not responded to antibiotic therapy.

Shortliffe LMD: Infection and inflammation of the pediatric genitourinary tract, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 116, pp 3096-3098.

Question #106 **ANSWER=E**

OnabotulinumtoxinA is indicated for neurogenic detrusor overactivity. However, the concerning urodynamic finding that can be seen in many patients with spina bifida, including this one, is loss of compliance and an elevated detrusor LPP. Elevated detrusor LPP specifically refers to a loss of compliance. A detrusor LPP > 40 cm H_2O places patients at a greater risk for subsequent upper urinary tract damage. While this patient is now continent, that does not mean that his detrusor storage pressure are in a safe range and he should, therefore, undergo a repeat urodynamic study. If the detrusor pressures are in a safe range at appropriate volumes, then increasing the interval between catheterizations can be considered, and he will likely require repeat injection in six to nine months when his symptoms return. If the detrusor pressures are not appropriately lowered with onabotulinumtoxinA, then bladder augmentation should be considered.

Chapple CR, Milsom I: Urinary incontinence and pelvic prolapse: Epidemiology and pathophysiology, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 63, p 1877.

Andersson KE, Wein AJ: Pharmacologic management of lower urinary tract storage and emptying failure, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 68, pp 1986-1987.

Question #107 **ANSWER=A**

Kaposi's sarcoma is the 2nd most common malignancy of the penis (after squamous cell carcinoma) as a result of the prevalence of HIV infection. It also occurs in patients on immunosuppression for organ transplantation or other indications. In this setting, Kaposi's sarcoma often regresses with modification of the immunosuppressive regimen and this should be the initial approach. If the tumor fails to respond to these efforts, local excision, laser ablation, or radiation should be considered. Partial penectomy is not indicated for this tumor type. 5-FU is typically utilized in squamous cell carcinoma of the penis.

Link RE: Cutaneous diseases of the external genitalia, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 15, pp 461-462.

Question #108 **ANSWER=B**

Following valve ablation, upper tract changes may take months or even years to resolve. However, in most cases, a trend towards improvement is noted in the first three to six months after valve ablation. When there are persistent upper tract changes, the first step is to perform a VCUG to determine if the valves are adequately ablated and whether or not reflux is present. Endoscopic valve ablation can be a technically challenging procedure in infants, and it is not always clear following initial surgery as to whether adequate ablation has occurred. In cases where the follow-up VCUG is unclear as to whether adequate valve ablation has occurred, repeat endoscopy is warranted. If there is no evidence of residual valves on the VCUG, then a careful assessment of bladder function is needed to determine if there is bladder dysfunction that is impairing upper tract drainage. Urodynamics can be performed to help tailor bladder management. In some patients CIC and/or pharmacotherapy may be needed. It is uncommon for upper tract dilation to be secondary to a true ureterovesical obstruction in this setting. Vesicostomy is usually reserved for patients in which initial valve resection cannot be performed due to urethral anatomy or in cases where CIC is needed and cannot be performed reliably. Although the role of supravesical diversion (bilateral cutaneous ureterostomy) is controversial, it is generally limited to those patients that continue to do poorly despite bladder level drainage. Observation is warranted only after the possibility of residual valves and bladder dysfunction has been adequately assessed. Changing prophylactic antibiotics will not lead to clinical improvement if there is persistent valve obstruction. MR urogram would simply confirm upper tract dilation, but would not be helpful in evaluating for persistent bladder outlet obstruction and is contraindicated in the setting of compromised renal function.

Casale AJ: Posterior urethral valves, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 126, p 3397.

Question #109 **ANSWER=E**

The first communication from the FDA regarding vaginal mesh occurred in October 2008 and focused on the risk of complications of surgically placed vaginal mesh to treat both stress urinary incontinence and pelvic organ prolapse (POP). In July 2011, the FDA published an updated safety communication regarding the use of transvaginal mesh placement for POP. These communications do not state that these techniques should not be done. In addition, while the communication does recommend that each surgeon obtain specialized training for each technique they use and be aware of the risks involved with that technique, it does not state that these procedures should only be done by physicians who are board certified in the specialty of Female Pelvic Medicine and Reconstructive Surgery. The statement does note that serious complications associated with transvaginally placed mesh for POP are not rare. The FDA summary of the literature also notes that the use of mesh in transvaginal POP repair introduces possible risks that would not be seen in a repair without mesh, lower mesh-related complication rates are seen with transabdominal mesh use compared to transvaginal repairs and that mesh augmented transvaginal POP repairs may result in a better objective outcome that does not translate into a better symptomatic outcome.

Update on serious complications associated with transvaginal placement of surgical mesh for pelvic organ prolapse: FDA Safety Communication.
http://www.fda.gov/MedicalDevices/Safety/AlertsandNotices/ucm262435.htm

Question #110 **ANSWER=C**

The finding of a papillary lesion at the ureteral margin needs further evaluation to fully ascertain the extent of tumors in the system prior to planning the correct therapy. An on-the-table flexible ureteroscopy would thus be useful in detecting more proximal tumors which if present may necessitate more extensive surgery. If only CIS or dysplasia is present, intraoperative endoscopy is not indicated, because visual identification of CIS is unlikely. Presuming that on-the-table ureteroscopy shows no additional tumors, you would then resect until negative margins are obtained. Nephroureterectomy and extensive ureteral resection would only be performed if the ureteroscopy demonstrated tumors at more proximal location. BCG is not indicated for a low grade ureteral tumor.

Lerner SP, Sternberg CN: Management of metastatic and invasive bladder cancer, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 82, p 2360.

Question #111 **ANSWER=C**

The flow rate is abnormal but there is no anatomic obstruction. This boy has primary bladder neck dysfunction since the bladder contraction precedes the onset of urine flow by a significant period of time. The treatment of choice would be alpha-1 receptor blockade for a period of several weeks to months followed by re-evaluation clinically, and repeat uroflow with EMG. External sphincter dyssynergia can be treated with botulinum toxin injection or pelvic floor retraining (biofeedback). Double voiding may decrease his PVR and improve his continence, but this will not address the primary problem. CIC would 'bypass' the blockage but would not be the preferred primary treatment.

Van Batavia JP, Combs AJ, Horowitz M, Glassberg KI. Primary bladder neck dysfunction in children: results of long-term alpha blocker therapy. J UROL 2010;183:724-730.

Wein AJ, Dmochowski RR: Neuromuscular dysfunction of the lower urinary tract, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 65, p 1938.

Question #112 **ANSWER=A**

Classically, cryoablation is used to treat tumors < 4 cm in size, with the laparoscopic approach used being dependent on the location of the tumor. Posterior and lateral tumors are usually approached retroperitoneally, and anterior or anterolateral tumors were approached transperitoneally. Theoretically, hilar tumors are more difficult to treat than peripherally located tumors due to the heat-sink effect caused by the renal blood flow within the renal hilar vessels. As such, target temperatures may be more difficult to achieve consistently throughout the entire tumor located near the renal hilum. Specific measures required to optimize tumor destruction during laparoscopic renal cryoablation include: 1) use of real-time intraoperative ultrasound to guide and confirm probe placement during laparoscopic insertion, 2) use of the ultrasound probe to monitor progression of the cryo lesion, 3) placement of the cryo probe tip at or just beyond the deepest or inner margin of the tumor, 4) obtaining target temperatures below -40 degrees Celsius during treatment, 5) extending the cryo lesion approximately 1 cm beyond the margin of the tumor, 6) performing an active double freeze-thaw cycle, as opposed to single cycle.

Kavoussi LR, Schwartz MJ, Gill IS: Laparoscopic surgery of the kidney, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 55, pp 1662-1664.

White WM, Kaouk JH: Ablative therapy for renal tumors, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 56, pp 1672-1673.

Question #113 **ANSWER=A**

Urethral recurrence following radical cystectomy and orthotopic neobladder is a rare event with a reported incidence of 2-3%. While invasive tumors are an indication for total urethrectomy and ileal conduit, noninvasive tumors can be managed initially with conservative therapy. For papillary tumors, TUR alone may be curative for low grade recurrences. Intraurethral chemotherapy and immunotherapy have been used for high grade noninvasive recurrences. In this patient with CIS, an initial attempt at preservation of the urethra and neobladder is warranted. For this reason, intraurethral BCG is the most appropriate choice.

Huguet J, Palou J, Serrallach M, et al: Management of urethral recurrence in patients with Studer ileal neobladder. EUR UROL 2003;43:495-498.

Sharp DS, Angermeier KW: Surgery of penile and urethral carcinoma, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 35, p 950.

Question #114 **ANSWER=B**

The cremasteric reflex implies an intact reflex arc in the genital branch of the genitofemoral nerve. Both the iliohypogastric and ilioinguinal nerve supply motor function to the internal oblique and transversus abdominis. The obturator nerve is the motor nerve for muscles in the medial thigh compartment. The femoral nerve supplies motor function for the anterior thigh compartment. The lateral femoral cutaneous nerve does not have a motor function and supplies sensation to the lateral aspect of the thigh.

Chung BI, Sommer G, Brooks JD: Anatomy of the lower urinary tract and male genitalia, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 2, p 47.

Question #115 **ANSWER=C**

For patients with chronic bicarbonate losses due to diarrhea, citrate should be employed to correct the resulting acidosis. It is recommended that a liquid preparation of potassium citrate be used rather than the slow-release tablet preparation because the slow-release medication may be poorly absorbed due to trapid intestinal transit time. Lemonade therapy is unlikely to normalize citrate levels, and the volume of fluid required will exacerbate the patient's diarrhea. Sodium citrate is not preferred, due to the sodium load which can promote hypercalciuria. Magnesium oxide and pyridoxine are useful treatments for hyperoxaluria, but not for hypocitraturia.

Ferrandino MN, Pietrow PK, Preminger GM : Evaluation and medical management of urinary lithiasis, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 46, p 1316.

Question #116 **ANSWER=C**

In a randomized clinical try, observation alone after successful BCG induction has been associated with a high recurrence rate when compared to three weekly maintenance BCG treatments at three months, six months and then every six months for two years. Prior randomized trials using other maintenance schedules have not been associated with a significant decrease in recurrence rates and, therefore, intravesical BCG on a monthly basis is not correct and there is no indication to initiate repeat induction BCG therapy. Monthly mitomycin maintenance has not been evaluated following BCG response in the setting of CIS.

Lamm DL, Blumenstein BA, Crissman JD, et al: Maintenance bacillus Calmette-Guerin immunotherapy for recurrent TA, T1 and carcinoma in situ transitional cell carcinoma of the bladder: A randomized Southwest Oncology Group Study. J UROL 2000,163:1124-1129.

Hall MG, Chang SS, Dalbagni G, et al: Management of nonmuscle invasive bladder cancer: (Stages Ta, T1, and Tis): AUA GUIDELINE. American Urological Association Education and Research, Inc, 2007. http://www.auanet.org/education/guidelines/bladder-cancer.cfm

Question #117 **ANSWER=D**

Congenital abnormalities of the urachus include a urachal sinus, urachal cyst, patent urachus, vesicourachal diverticulum, and omphalomesenteric cyst/duct. Urachal abnormalities occur equally between boys and girls and present more often in adulthood with umbilical drainage followed by an umbilical mass and periumbilical pain. Staphylococcus aureus is the most common bacteria cultured from an infected sinus tract or cyst. An important aspect of treatment is initial antibiotic therapy. Incision and drainage or percutaneous drainage should be considered for a loculated abscess, particularly when it is non-responsive to antibiotic therapy. Omphalomesenteric ducts may connect the midgut to the umbilicus. Ultrasound will demonstrate a periumbilical mass and a sinogram will reveal communication of the umbilical sinus to the ileum. Definitive treatment centers on excision that should be delayed for a few weeks following the initial antibiotic therapy in order to decrease the inflammatory response. This will help limit the amount of bladder that may need to be resected and will reduce the risk of injury to adjacent intra-peritoneal structures.

Frimberger DC, Kropp BP: Bladder anomalies in children, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 125, pp 3381-3384.

Question #118 **ANSWER=B**

Semen pH is alkaline (pH > 7.2). This is due to the larger amount of alkaline fluid from the seminal vesicles (SVs) over the smaller volume of acidic fluid from the prostate. Very little alkaline fluid is provided by the vas, testes, or epididymides. Alkaline pH of semen is needed for correct function of sperm. The knowledge of semen volume and pH is very important because it is diagnostic, and can determine ejaculatory duct obstruction (EJDO) and congenital bilateral absence of the vas deferens (CBAVD) from other obstructive causes of azoospermia. Both EJDO and CBAVD have low volume acid pH semen due to obstruction and absence of the SVs respectively. Bilateral vasectomy or epididymal obstruction would result in normal semen volume and pH with azoospermia since the SVs are not obstructed.

Turek PJ: Male reproductive physiology, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 20, p 612.

Question #119 **ANSWER=C**

The size of residual masses is an important predictor of viable malignancy; 27% to 38% of discrete residual masses larger than 3 cm contain viable malignancy compared with 0% to 4% for masses < 3 cm. Moreover, surgical resection is technically difficult due to severe fibrosis, and often incomplete. The recommended management for this situation (small tumor < 3 cm) is observation with serial physical exam, serum markers, and CT scans. Recently, FDG-PET has been found to be a useful adjunct to CT to select patients for post-chemotherapy surgery. Thus, patients with discrete residual masses > 3 cm should be evaluated further with FDG-PET and those who are PET positive should undergo surgery. PET-negative residual masses > 3 cm and masses < 3 cm (as above) should be observed. This management should be distinguished from individuals with mixed germ cell tumors or non-seminomatous germ cell tumors in whom RPLND is indicated for the vast majority of residual masses within the retroperitoneum.

Stephenson AJ, Gilligan TD: Neoplasms of the testis, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 31, p 865.

Question #120 **ANSWER=A**

Children who initially fail an alarm system in the treatment of nocturnal enuresis will benefit from combination therapy e.g., enuretic alarm with pharmacological treatment. Comparison of estimated bladder capacity (age in years x 30 ml + 60 ml = bladder capacity) divided by the mean of the voided diurnal urine volumes obtained on a voiding diary can guide combination therapy. Patients with values of > 70% (estimated bladder capacity/mean diurnal voided volume) will have a better response to the combination of a enuretic alarm and DDAVP. Response to enuretic alarm and anticholinergic medication is better in patients with < 70% (estimated bladder capacity/ mean diurnal voided volume).

Yeung CK, Sihoe JDY: Non-neuropathic dysfunction of the lower urinary tract in children, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 127, p 3427.

Andersson KE, Wein AJ: Pharmacologic management of lower urinary tract storage and emptying failure, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 68, p 1994.

Question #121 **ANSWER=A**

Cystic fibrosis (CF) is a progressive, lifelong condition in which the glands that produce mucus, sweat, and intestinal secretions produce abnormally high amounts of NaCl. The abnormal functioning of the epithelial cells result in thick mucus accumulation in the lungs, leading to breathing difficulty and repeated respiratory infections, impaired digestion due to thick mucus blocking the pancreatic ducts with failure of pancreatic enzymes secretion, and infertility (> 98% of affected men are infertile) due to vasal atrophy and dissolution. Vasal dissolution presumably occurs secondary to mucus build-up within the vasal lumen and pressure induced atrophy.

Due to the thick build-up of mucous within the lungs and recurrent pulmonary infections, many of the patients with CF are exposed to prolonged antibiotic use resulting in the loss of the intestinal bacteria, Oxalobacter formigenes. This bacteria normally metabolizes intestinal oxalate, reducing the amount of oxalate available for systemic absorption.

Due to the lack of digestive pancreatic enzymes, cystic fibrosis patients will frequently have intestinal malabsorption resulting in diarrhea, caloric deficiencies and deficiencies in the absorption of Vitamins A, D, E, and K and the minerals of calcium, magnesium, iron, sodium chloride, and zinc. To combat these deficiencies, CF patients are encouraged to eat a diet high in calories, fat, and salt. The elevation in salt intake is critical in CF patients due to the high salt content (> 10 fold normal) found in the sweat of affected patients.

Individuals with cystic fibrosis will, therefore, not have absorptive hypercalciuria; indeed, they have a failure to absorb calcium from their GI tract due to saponification of calcium by the high fat content of their stools. They will have elevated levels of urinary sodium due to increased sodium intake. CF patients do have diarrhea with resultant hypocitraturia and hypomagnesuria; however, replacement of citrate or magnesium have not been found to reduce stone formation within this patient population.

The chief cause of stones in patients with CF is the excess oxalate absorbed due to absence of Oxalobacter formigenes, the saponification of calcium within the intestine, and low urinary volume secondary to fluid depletion from diarrhea. Renal tubular acidosis is not part of the cystic fibrosis disease complex.

Pearle MS, Lotan Y: Urinary lithiasis: Etiology, epidemiology, and pathogenesis, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 45, p 1273.

Question #122 **ANSWER=A**

Primary hyperaldosteronism (Conn's Syndrome) due to adrenal hypersecretion of aldosterone causes hypertension and hypokalemia in non-edematous patients. Conn's syndrome accounts for about 1% of hypertensive patients, usually women between the ages of 30-50 years. Patients typically have hypertension, muscle weakness, polyuria, hypokalemia, and mild metabolic acidosis. However, essential hypertension treated with diuretics is the most common cause of hypokalemia in patients with hypertension. Secondary hyperaldosteronism can be due to renal artery stenosis, cardiac failure, hepatic cirrhosis, pregnancy and Bartter's Syndrome (due to juxtaglomerular cell hyperplasia).

Kutikov A, Crispen PL, Uzzo RG: Pathophysiology, evaluation, and medical management of adrenal disorders, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 57, pp 1697-1703.

Question #123 **ANSWER=C**

Stranguria and gross hematuria in a child with a normal ultrasound suggests a possible urethral abnormality, such as congenital urethral polyp, or urethral stricture. A VCUG will likely be diagnostic. CT scan and MRI are unlikely to add useful information in a patient with a normal renal and bladder ultrasound and urine cytology is not indicated. Cystoscopy may be indicated based on the findings of the VCUG.

Casale AJ: Posterior urethral valves, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 126, p 3407.

Question #124 **ANSWER=E**

Asymptomatic bacteriuria has not been demonstrated to cause harm in most adults. While these patients are at risk for developing symptomatic UTIs, treatment of the asymptomatic bacteriuria does not result in fewer symptomatic UTIs. In contrast, treatment of asymptomatic bacteriuria is indicated in pregnant women and patients undergoing urologic procedures because they are at increased risk of developing adverse outcomes if left untreated. The presence of diabetes is not an indication to screen for or treat asymptomatic bacteriuria. Neither imaging studies nor cystoscopy is indicated if the bacteriuria is asymptomatic. In this setting, a culture should not be sent because it will not affect management.

Schaeffer AJ, Schaeffer EM: Infections of the urinary tract, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 10, p 288.

Question #125 **ANSWER=A**

Cytoreductive nephrectomy as part of a multidisciplinary approach to metastatic RCC has been shown to prolong survival in two randomized clinical trials. However, its use is controversial and proper patient selection is crucial. The following inclusion criteria have been suggested for selecting patients for cytoreductive nephrectomy: 1) ability to resect more than 75% of the tumor volume, 2) no brain metastases, 3) adequate pulmonary and cardiac reserve, 4) ECOG performance status of 0 or 1, and 5) predominantly clear cell histology. Although sarcomatoid cell histology has been associated with poor prognosis it is not a contraindication to cytoreductive nephrectomy. Patients with brain metastasis should be treated with stereotactic radiation or CNS surgery prior to consideration for cytoreductive nephrectomy.

Srinivasan R, Linehan WM: Treatment of advanced renal cell carcinoma, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 50, p 1478.

Question #126 **ANSWER=A**

Minor degrees of separation of circumcision edges are common. Complete separation as described is uncommon. This incision should be considered contaminated in the baby's diaper. Therefore, immediate closure is not recommended. Skin grafts are not indicated because of the contaminated bed and would have a high risk of infection. Since the length of the skin was adequate at the time of circumcision, observation is the best choice. Usually this complication rapidly heals well and nothing further will be necessary. If an undesirable scar develops, it can be revised or grafted electively at a later time.

Palmer JS: Abnormalities of the external genitalia in boys, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 131, pp 3540-3541.

Question #127 **ANSWER=C**

The main purpose of the one shot IVP is to assess for the presence of a functioning contralateral kidney and to assess the degree of damage to the ipsilateral kidney and ureter when a non-expanding, non-pulsatile retroperitoneal hematoma is encountered during abdominal exploration for a GSW in the absence of preoperative imaging. Ultrasound cannot delineate parenchymal lacerations, vascular injury, or collecting system or ureteral injuries in the acute setting. Renal arteriography is not indicated in the acute, intra-operative setting. Expectant management has been advocated as long as there is not an expanding or pulsating hematoma and renal pelvic or ureteral injury can be excluded by pre-operative CT scan or pre- or intra-operative one-shot IVP. Because of the risk of renal loss with exploration, a conservative approach is advocated and has been associated with a lower nephrectomy rate. In the presence of an expanding or pulsatile retroperitoneal hematoma, renal exploration is indicated.

Santucci RA, Doumanian LR: Upper urinary tract trauma, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 42, pp 1172-1174.

Question #128 **ANSWER=B**

This patient has low risk clinically localized prostate cancer (normal DRE, PSA <10, Gleason score < 7, and minimal core involvement). Although there is no clinical or biochemical evidence at this point of disease progression, a repeat prostate biopsy within 18 months is an essential component of active surveillance and can provide important information useful in management. This is especially true for men electing active surveillance who have a life-expectancy > 10 to 15 years and are otherwise candidates for definitive therapy. A repeat biopsy may provide information that would lead one to consider local therapy. This includes grade progression and an increase in the percentage of the biopsy specimen involved with cancer. MRI remains investigational as a tool for monitoring patients on active surveillance. Bone scan and ProstaScint® scan are not indicated at this point in time.

Eastham JA, Scardino PT: Expectant management of prostate cancer, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 101, p 2799.

Thompson I, Thrasher JB, Aus G, et al: Management of clinically localized prostate cancer: AUA GUIDELINE. American Urological Association Education and Research, Inc, 2007. http://www.auanet.org/education/guidelines/prostate-cancer.cfm

Question #129 **ANSWER=C**

This baby has a clinically and functionally significant right distal ureterovesical junction obstruction associated with decreased renal function. The diagnostic parameters indicate that treatment is needed. Observation is inappropriate and may result in further loss of renal function and/or severe infection in this obstructed system. Definitive treatment would entail ureteral reimplantation with tapering. However, this is technically challenging in this age group and better deferred for a child older than one year of age. A percutaneous nephrostomy tube requires external drainage which is not practical when required longer than several weeks. The most appropriate temporizing procedure is a distal cutaneous ureterostomy. Another option to be considered is an anastomosis of the distal ureter to the bladder in a refluxing manner.

Carr MC, Casale P: Anomalies and surgery of the ureter in children, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 120, p 3215.

Question #130 **ANSWER=B**

Urethral "rest" involves a period of several weeks where the urethra is not instrumented. This "rest period" allows inflammation to decrease within the lumen and facilitates accurate identification of severely fibrotic segments of the stricture which will eventually require focal or complete excision. Suprapubic tube urinary diversion, removal of a urethral catheter after recent instrumentation, or cessation of CIC all accomplish urethral rest. The median duration of urethral rest is reported as three months in this study; however, repeat urethral staging can be repeated at four to six weeks. Urethroplasty following recent dilation, CIC, or DVIU may not accurately assess the location and severity of fibrotic urethral segments thus understaging the disease and placing the patient at a higher risk for recurrence following urethroplasty. DVIU is not indicated in any situation for a urethral stricture > 1.5 cm. The urethroplasty technique will depend on the degree and length of fibrotic urethra following urethral rest.

Terlecki RP, Steele MC, Valadez C, Morey AF: Urethral rest: Role and rationale in preparation for anterior urethroplasty. UROL 2011;77:1477-1481.

Question #131 **ANSWER=B**

Similar to retroperitoneal lymph node dissection for testicular cancer, chylous leak can occur after regional lymphadenectomy at the time of renal surgery. Care must be taken to ligate small lymphatic vessels, particularly those close to the cisterna chyli below the right crus. In a setting where a drain is left in place, the fluid will have a milky white appearance and will have elevated fat and total protein levels. While pancreatic injury and fistula needs to be considered in the setting of a resection of a large left-sided upper pole tumor, this is not as likely on the right side. In addition, the clinical presentation is not consistent with a pancreatic leak, as pancreatic fluid is usually clear. Similarly, a urine leak would present with clear fluid. Finally, an unrecognized bowel injury resulting in enterocutaneous fistula is unlikely given the appearance of the fluid. Therefore, an activated charcoal test would not be helpful.

Eichel L, Clayman RV: Fundamentals of laparoscopic and robotic urologic surgery, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 9, p 249.

Question #132 **ANSWER=B**

Maintenance fluids are based on body weight. One formula is: 4 ml/kg/hr for the first 10 kg and 2 ml/kg/hr for the second 10 kg, then 1 ml/kg/hr for the remainder. Hence, for a 14 kg child, 48 ml/hr is appropriate (or approximately 50 ml/hr). Infants under six months are generally given 1/4 NS because of their high water needs per kg, but older than six months should receive 1/2 NS.

Estrada CR Jr, Ferrari LR: Core principles of perioperative management in children, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 119, p 3200.

Question #133 **ANSWER=D**

The patient has suffered a significant blunt bulbar urethral injury. Dilation and DVIU would have a much lower success rate in this situation as compared to non-traumatic strictures, as traumatic strictures have significant spongiofibrosis. The best treatment is excision of the strictured urethral segment and primary anastomosis of healthy urethral mucosa and spongiosum. A patch graft could be considered, but the outcomes with a nearly obliterated urethra and significant spongiofibrosis would be inferior to excision and primary anastomosis. Mitomycin injection may be indicated in recurrent bladder neck contractures but is not indicated in this situation.

Morey AF, Dugi DD III: Genital and lower urinary tract trauma, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 88, p 2520.

Question #134 **ANSWER=D**

Bladder preservation with chemoradiation can be effective in well-selected patients. The use of radical TURBT and concurrent radiosensitizing chemotherapy has achieved ~50% five year survival. The most well-studied and effective chemotherapeutic agent used in this setting is cisplatin. Methotrexate, vinblastine, and doxorubicin are all important systemic agents with efficacy against bladder cancer; however, they do not have significant roles as concurrent treatments along with radiation therapy. Paclitaxel may have a selected role as a radiosensitizer, but to a much lesser degree than cisplatin.

Lerner SP, Sternberg CN: Management of metastatic and invasive bladder cancer, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 82, pp 2365-2366.

Question #135 **ANSWER=C**

Approximately 1% of children with unilateral Wilms' tumor develop contralateral disease. Children younger than 12 months diagnosed with Wilms' tumor who also have nephrogenic rests, in particular perilobar nephrogenic rests, have a markedly increased risk of developing contralateral disease. These children require frequent and regular surveillance for several years. They are not at higher risk for renal disease (other than that usually associated with nephrectomy, chemotherapy, radiation therapy), nor is she at greater risk for local or distant recurrence.

Coppes MJ, Arnold M, Beckwith JB, Ritchey ML, et al: Factors affecting the risk of contralateral Wilms' tumor development: A report from the National Wilms' Tumor Study Group. CANCER 1999;85:1616-1625.

Ritchey ML, Shamberger RC: Pediatric urologic oncology, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 137, p 3711.

Question #136 **ANSWER=E**

Proximal and large ureteral defects are difficult to manage. The surgeon must be ready to use a variety of approaches depending on the intraoperative findings. Due to poor long term outcomes, endopyelotomy is contraindicated in strictures over 2 cm. Ureteroureterostomy is ideal for short upper or mid-ureteral strictures but is not possible with large defects. Transureteroureterostomy is contraindicated in those with nephrolithiasis. Ureterocalicostomy is reserved for individuals with UPJ and proximal 2-3 cm stricture with a dilated lower pole calyx, this patient has a length ureteral stricture to amenable to this procedure. Ileal ureter should be considered for long, > 4 cm upper ureteral defects, in patients with serum creatinines of < 2.0 mg/dl. Fallopian tube and appendiceal substitutions although described, are not reliable reconstructive techniques and are associated with recurrent stricture on long-term follow-up. Other options for this patient include autotransplantation or nephrectomy. Nephrectomy is usually considered as a last resort and is reserved for patients with a normal serum creatinine and poor function (classically < 20% on renal flow scan).

Nakada SY, Hsu THS: Management of upper urinary tract obstruction, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 41, p 1122.

Question #137 **ANSWER=C**

Approximately three quarters of urine specimens from ileal conduits are culture positive. Most adult patients show no untoward effects when exposed to chronic bacteriuria. Deterioration of the upper tracts is more likely when the culture becomes dominant for Proteus or Pseudomonas, and thus, these patients should receive antibiotic therapy to reduce the incidence of stone formation. Those patients with mixed cultures may generally be observed, provided they are not symptomatic. Further imaging in this asymptomatic patient is not indicated.

Dahl DM, McDougal WS: Use of intestinal segments in urinary diversion, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 85, p 2446.

Question #138 **ANSWER=A**

Post-traumatic hypertension can occur in the setting of renal ischemia, development of an arteriovenous (AV) malformation, or kidney compression from a hematoma. The ultrasound rules out infarction, venous thrombosis and global scarring. The nuclear scan rules out infarction and segmental and global scarring. In this case of delayed development of hypertension, the most likely cause is an AV fistula secondary to penetrating trauma. Diagnosis can be made with an MRI or CT angiogram. Successful treatment is usually achieved with angiographic embolization. In contrast to blunt or penetrating traumatic AV fistula, those occurring after a needle biopsy will often close spontaneously.

Husmann DA: Pediatric genitourinary trauma, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 138, p 3741.

Question #139 **ANSWER=B**

This patient has sustained a high velocity urethral injury. The best treatment is suprapubic tube placement followed by staged urethroplasty. The blast effect of the high velocity missile will cause significant collateral tissue damage which will evolve over the next several days. Suprapubic urinary diversion is the best course of action as compared to a urethral catheter which may compound the injury, followed by restaging the injury and eventual staged urethroplasty. Penile urethroplasty with or without graft immediately following a high velocity injury is not indicated as the full extent of the urethral injury is not known. The patient will eventually require a urethroplasty; however, this should be performed following suprapubic urinary diversion and restaging of the injury.

Morey AF, Dugi DD III: Genital and lower urinary tract trauma, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 88, p 2509.

Question #140 **ANSWER=D**

Failure to empty occurs more commonly in female than in male patients. Uniquely, females may develop hypercontinence that is likely due to a mechanical issue in which the orthotopic diversion falls back into a wide pelvic cavity. This in turn results in an acute angulation of the posterior pouch-urethral junction. Various maneuvers including omental packing behind (posterior) to the reservoir, suspending the dome of the reservoir to the rectus muscle and suspension of the vaginal stump to the preserved round ligaments have been described to prevent this angulation. Nerve-sparing techniques and increased intestinal length have been described as risk factors for retention. Suspension of the pouch to the back of the rectus muscle at the time of surgery is the most effective way to prevent angulation and hypercontinence.

Skinner EC, Skinner DG, Stein JP: Orthotopic urinary diversion, Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 87, p 2479.

Question #141 **ANSWER=A**

Boys with urethral valves often have problems with bladder training because of a combination of factors. Often these patients will have persistent tubular concentrating defects resulting in polydipsia and polyuria combined with small bladders capacities, detrusor overactivity with or without poor detrusor compliance. The low capacity bladder associated with large urine volume production results in significant urinary frequency, urgency, urge incontinence and primary nocturnal enuresis. The most useful studies to define the anomalies are a 24-hour collection for volume and urodynamics. Diuretic renography and antegrade pressure perfusion study are not indicated in this patient with stable hydronephrosis and normal creatinine. Cystoscopy would not be indicated with normal voiding phase of the VCUG. Antimuscarinics are not indicated unless bladder overactivity is documented on urodynamic study.

Palmer LS, Trachtman H: Renal functional development and diseases in children, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 112, p 3002.

Casale AJ: Posterior urethral valves, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 126, p 3391.

Question #142 **ANSWER=C**

Mutations in the CFTR are responsible for a phenotypic spectrum from overt cystic fibrosis to congenital bilateral absence of the vas deferens. Over 1,000 CFTR mutations have been identified and only a portion are detected by routine testing. The man should be assumed to be a CFTR carrier despite a negative CFTR gene test. Therefore, his female partner needs to be tested prior to any assisted reproductive techniques to determine the risk of cystic fibrosis in their offspring.

Jarow JP, Sigman M, Kolettis PN, et al: The evaluation of the azoospermic male: AUA BEST PRACTICE STATEMENT. American Urological Association Education and Research, Inc, 2010. http://www.auanet.org/education/guidelines/male-infertility-b.cfm

Jarow JP, Sigman M, Kolettis PN, et al: The optimal evaluation of the infertile male: AUA BEST PRACTICE STATEMENT. Revised 2010. American Urological Association Education and Research, Inc, 2010. http://www.auanet.org/education/guidelines/male-infertility-d.cfm

Question #143 **ANSWER=B**

Multiple series have documented the safety and efficacy of endoscopic management of upper tract urothelial carcinoma (TCC). This elderly patient has significant comorbidities and a low grade distal ureteral TCC. Low grade tumors at ureteroscopic biopsy have a strong correlation with noninvasive stage at the time of nephroureterectomy. Similarly, high grade disease identified on ureteroscopic biopsy is very likely to represent invasive disease at the time of final pathologic staging. In a younger, healthier patient, distal ureterectomy and reimplantation would be another option; however, this older patient would be better served with endoscopic management. Although upper tract tumors can be ablated with electrocautery delivered through a small Bugbee electrode, the variable depth of penetration and risk of stricture formation have made the use of laser energy for ablation more popular.

Sagalowsky AI, Jarrett TW, Flanigan RC: Urothelial tumors of the upper urinary tract and ureter, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 53, pp 1542-1546.

Question #144 **ANSWER=A**

The half-life of AFP is approximately five days and the fall in AFP levels described in this patient would be considered abnormal and suspicious of metastatic disease in any patient > 18 months of age. However, in infants (< 18 months of age) with a yolk sac tumor the physician should see a precipitous drop in the AFP levels post-orchiectomy but persistent elevations in the AFP (> 10 ng/dl) are a normal finding. The reason behind the persistent elevation in AFP is its production in the fetal and neonatal liver. Indeed, AFP is the chief serum protein (instead of albumin) for the first six months of life. The persistent elevation in AFP in a neonate is a normal finding with the AFP levels reaching normal adult values (< 10 ng/dl) at approximately eighteen months of age. In infants undergoing resection of a yolk sac tumor serial AFP levels are obtained with evidence of persistent or recurrent disease noted by serial elevations of the AFP level above the nadir value.

Brewe JA, Tank ES: Yolk sac tumors and alpha-fetoprotein in first year of life. UROL 1993;42:79-80.

Ritchey ML, Shamberger RC: Pediatric urologic oncology, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 4, chap 137, p 3696.

Question #145 **ANSWER=C**

All five drug classes have been used for the pain relief of acute renal colic. NSAIDS and narcotics are most commonly used; however, meta-analysis and comparative studies show that NSAIDS are superior to narcotics for the acute relief of renal colic. NSAIDS treat the inflammatory basis of pain and reduce collecting system pressure as compared to narcotics. Narcotics are also associated with more side effects as compared to NSAIDS. Alpha-blockers, calcium channel blockers, and steroids are used more commonly for medical expulsive therapy.

Singh I, Strandhoy JW, Assimos DG: Pathophysiology of urinary tract obstruction, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 40, p 1106.

Question #146 **ANSWER=D**

Ureterointestinal stricture can occur early or late after urinary diversion. The first step in management is to rule-out disease recurrence. Once it has been established that the stricture is not due to recurrent cancer, the most effective approach to management is open surgical repair. Although various minimally invasive approaches have been employed, including balloon dilation, cold knife or laser incision and stent placement, open surgical repair has been consistently shown to be the most effective way of addressing this problem, particularly in the setting of a longer stricture and decreased renal function. Minimally invasive approaches may be effective for shorter strictures (1-2 cm or less). Early ureteroenteric strictures (<1 yr postoperative) are usually due to devascularization of the distal ureter or extreme angulation of the left ureter at the level of the inferior mesenteric artery. Late strictures are usually due to a fibrotic response at the ureteroenteric junction. Nephrectomy is not indicated in this kidney with 25% shared function. In younger patients, a chronic ureteral stent is not indicated.

Dahl DM, McDougal WS: Use of intestinal segments in urinary diversion, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 3, chap 85, p 2434.

Question #147 **ANSWER=E**

Approximately 70% of arteriovenous fistulas occurring after needle biopsy of the kidney close spontaneously within 18 months. In the absence of significant related symptoms, expectant management is appropriate initially. The clinical manifestations of a renal arteriovenous fistula depend upon the size of the fistula. Congestive heart failure, cardiomegaly, and diastolic hypertension are observed in 50% of symptomatic patients. Hematuria is present in about a third, and tachycardia is occasionally found. Flank pain, embolic events, and hypertension are less common. In contrast, AVF following blunt renal trauma is much less likely to resolve spontaneously.

Fergany A, Novick AC: Renovascular hypertension and ischemic nephropathy, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 39, p 1081.

Question #148 **ANSWER=D**

The genitofemoral, ilioinguinal, and lateral femoral cutaneous nerve can be seen during the performance of a psoas hitch. Although this patient has suffered an injury to the femoral branch of the genitofemoral nerve, visualization of three nerves will usually result in sparing injury to these structures. Indeed, some studies have revealed the most common nerve injured during the performance of a psoas hitch is the femoral nerve running in the undersurface or belly of the psoas muscle. Sutures placed horizontally in the psoas muscle increase the risk of injury to this nerve. Sutures for a psoas hitch should be placed longitudinally, e.g., in the direction that the muscle is running and superficially to prevent this complication. As noted, this patient has suffered an injury to the femoral branch of L1, L2 as a result of the psoas hitch. This nerve branch is responsible for sensation to the anterior thigh. The genital branch of L1, L2 is motor to the cremasteric muscles and scrotum. The lateral femoral cutaneous nerve is responsible for sensation to the lateral aspect of the thigh, and the ilioinguinal nerve provides sensation to the anterior pubis and scrotum. The obturator nerve provides sensation to the medial thigh.

Chung BI, Sommer G, Brooks JD: Anatomy of the lower urinary tract and male genitalia, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 2, p 47.

Question #149 **ANSWER=B**

The presence of even a small amount of fat within a renal lesion on CT scan (confirmed by a value of -20 HU or lower) virtually excludes the diagnosis of RCC and is diagnostic of angiomyolipoma (AML). There are very rare cases of fat containing kidney cancer, but most of those will have calcified areas. Approximately 20% to 30% of AMLs are found in patients with tuberous sclerosis syndrome (TS), an autosomal dominant disorder characterized by mental retardation, epilepsy, and adenoma sebaceum, a distinctive skin lesion. Most patients with acute or potentially life-threatening hemorrhage require total nephrectomy if it is explored; and if a patient has TS, bilateral disease, preexisting renal insufficiency, or other medical or urologic disease that could affect renal function in the future, selective embolization should be considered. In such circumstances, selective embolization can temporize and in many cases prove definitive.This patient is hemodynamically stable and may not require transfusion if selective embolization is successful. There is no role for radio frequency ablation or cryotherapy for a large AML that is acutely bleeding. A partial nephrectomy may be possible or desirable in the future; however, in the setting of acute bleeding, most explorations will result in nephrectomy, which would be undesirable for this woman with renal insufficiency.

Margulis V, Matin SF, Wood CG: Benign renal tumors, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 2, chap 51, p 1499.

Question #150 **ANSWER=B**

When infradiaphragmatic urinary extravasation extends through Buck's fascia, it is limited only by Colles' fascia which attaches posteriorly at the triangular ligament and laterally at the fascia lata of the thigh. Colles' fascia is continuous anteriorly with Scarpa's fascia which extends superiorly to the thoracoclavicular fascia. Therefore, both Colles' and Scarpa's fascia limit such an extravasation. Such an extravasation, particularly when associated with infection (periurethral phlegmon), can result in edema and necrosis of the skin of the penis, scrotum, and anterior body wall. Denonvillier's fascia does not connect with Colles', Scarpa's, or dartos fascias. Colles' is contiguous with dartos fascia.

Chung BI, Sommer G, Brooks JD: Anatomy of the lower urinary tract and male genitalia, Wein, AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL-WALSH UROLOGY, ed 10. Philadelphia, Elsevier Saunders, 2012, vol 1, chap 2, p 33.